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CONTENTS

ORIGINAL ARTICLES

MORTALITY FROM ORGANIC DISEASES OF THE HEART AMONG WAGE EARNERS, 1911 TO 1916. *By Louis I. Dublin, Ph.D.*, New York.

MILITARY ORTHOPEDIC SURGERY: ITS SCOPE AND AIMS. *By Sir Robert Jones, C.B., Ch.M., D.Sc., F.R.C.S.*

"BIRTH CONTROL." *By Mabel D. Ordway, M.D.*, Boston.

HEARING TEST WITH VOICE TO DETECT MALINGERING. *By Capt. John F. Callahan, M.C., U.S.A.*, Brockton, Mass.

TREATMENT OF SYMPTOMS AND COMPLICATIONS IN TUBERCULOSIS. *By Herbert F. Gammons, M.D.*, Deerwood, Minn.

CLINICAL DEPARTMENT

TETANUS WITH INCOMPLETE TRISMUS; RECOVERY WITH SERUM. *By Robert W. Angevine, M.D.*, Rochester, N. Y.

NON-SURGICAL CURE OF INCOMPETENCE OF THE ILEO-CECAL VALVE. *By John Bryant, M.D.*, Boston.

EDITORIALS

THE EPIDEMIC OF INFLUENZA.

PROGRESS OF CAMPAIGN AGAINST VENEREAL DISEASES IN MASSACHUSETTS.

For complete table of contents, see first text page.

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TABLE OF CONTENTS

September 26, 1918

ORIGINAL ARTICLES

MORTALITY FROM ORGANIC DISEASES OF THE HEART AMONG WAGE-EARNERS, 1911 TO 1916. *By Louis I. Dublin, Ph.D.*, New York 413

MILITARY ORTHOPEDIC SURGERY: ITS SCOPE AND AIMS. *By Sir Robert Jones, C.B., Ch.M., D.Sc., F.R.C.S.* 416

"BIRTH CONTROL." *By Mabel D. Ordway, M.D.*, Boston 421

HEARING TEST WITH VOICE TO DETECT MALINGERING. *By Capt. John F. Callahan, M.C., U.S.A.*, Brockton, Mass. 423

TREATMENT OF SYMPTOMS AND COMPLICATIONS IN TUBERCULOSIS. *By Herbert F. Gammons, M.D.*, Deerwood, Minn. 425

CLINICAL DEPARTMENT

TETANUS WITH INCOMPLETE TRISMUS; RECOVERY WITH SERUM. *By Robert W. Angevine, M.D.*, Rochester, N. Y. 427

NON-SURGICAL CURE OF INCOMPETENCE OF THE ILEO-CECAL VALVE. *By John Bryant, M.D.*, Boston 428

BOOK REVIEWS

General Principles of Therapeutics. By Francis H. McCrudden, S.B., M.D., Boston 429

The Dream Problem. By A. E. Maeder, M.D. 429

The Significance of Psychoanalysis for the Mental Sciences. By Otto Rank, M.D., and Hanns Sachs, M.D. 429

EDITORIALS

THE EPIDEMIC OF INFLUENZA 430

PROGRESS OF CAMPAIGN AGAINST VENEREAL DISEASES IN MASSACHUSETTS 434

MEDICAL NOTES 436

CORRESPONDENCE

THE CRANE SANATORIUM. *Vincent Y. Bowditch* 440

MISCELLANY

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR AUGUST, 1918 438

RECENT DEATHS, ETC. 440

Original Articles.

MORTALITY FROM ORGANIC DISEASES OF THE HEART AMONG WAGE EARNERS, 1911 TO 1916.

BY LOUIS I. DUBLIN, PH.D., NEW YORK,

Statistician, Metropolitan Life Insurance Company.

THE deaths classified as due to "organic diseases of the heart" form a group which is second in numerical importance only to tuberculosis, in this mortality experience of insured wage-earners.* In the experience of the general population of the expanding rgistration area in recent years, organic heart disease has ranked first as a cause of death. During the six-year period, 1911 to 1916, 75,345 deaths from organic cardiac diseases were recorded among the Company's industrial policyholders. This number is 11.9% of the 634,499 deaths from all causes. The deaths correspond to a rate of 140.1 per 100,000 exposed. This is for the entire experience period; but in four of the six years, the rate was higher than that for the period as a whole.

The chief interest in connection with the study of the mortality from cardiac diseases lies, of course, in its variable age, color and sex incidence. The disease is primarily one of advanced life, although, as we shall see, it takes a significant toll at the younger adult ages. The rate is considerably higher among colored persons than among the white group, which condition also obtained in the registration area for the period as a whole and for each included year. This was true for each sex for every significant age group with the exception of that relating to decedents 75 years of age and over.

The death rates are very different for the two sexes. Almost without exception, the rates for females are higher than for males up to and including the age period 20 to 24 years. After this age period, however, the situation is reversed, the death rates for males being very much higher than for females. This is uniformly true for white lives but there are a few exceptions among the colored. It would appear, therefore, that these organic heart diseases in their higher incidence among adult males strike heavily at the chief, or only, income producers in families; often after long periods of sickness in which the wage-earner has been unable to work actively all or part of the time. These diseases thus bring about hardship and distress which can not be shown in figures. In fact, if it were possible to calculate the money loss to the country through deaths from heart affections and the long periods of sickness which precede them, the importance of cardiac disease economi-

* From a forthcoming work, "Mortality Statistics of Wage-earners in the United States and Canada."

cally would be much more impressively demonstrated than is possible by the publication of mere numbers of deaths and the corresponding death rates.

Considered irrespective of color or sex, we find that the death rates for the organic diseases of the heart increase regularly wth age, but show their greatest increases in the higher age periods. This is brought out clearly in the following table.

TABLE I.

MORTALITY FROM ORGANIC DISEASES OF THE HEART, CLASSIFIED BY COLOR, SEX AND BY AGE PERIOD. DEATH RATES PER 100,000 PERSONS EXPOSED. 1911 TO 1916. EXPERIENCE OF METROPOLITAN LIFE INSURANCE COMPANY, INDUSTRIAL DEPARTMENT.

AGE PERIOD	PERSONS	WHITE		COLORED	
		MALES	FEMALES	MALES	FEMALES
All ages	140.1	125.9	137.0	191.0	202.0
1 to 4	7.3	7.0	6.4	14.1	14.6
5 to 9	16.0	14.9	18.2	11.4	14.1
10 to 14	25.5	22.7	31.4	19.9	28.3
15 to 19	30.2	28.7	31.2	29.4	34.9
20 to 24	30.6	28.5	30.4	32.2	42.8
25 to 34	53.5	51.6	45.6	89.6	72.8
35 to 44	121.8	120.1	92.6	201.2	211.7
45 to 54	245.6	259.0	201.1	416.0	433.1
55 to 64	604.8	641.2	526.8	885.4	787.8
65 to 74	1523.1	1624.2	1443.0	1702.2	1530.3
75 and over	2808.1	3033.1	2703.1	2647.8	2613.2

Significant relations may be brought out by comparing the foregoing figures for white persons with those for the total expanding registration area of the United States. We shall use for this purpose the population figures for the six-year period 1910 to 1915 inclusive. Taking all ages one and over together in the two experiences, we find that the mortality rate for insured white males (125.9 per 100,000) was lower than that for males of the registration area (147.0 per 100,000) and that the rate for insured white females (137.0) was lower than the rate for females in the general population (140.7). No mistake should be made, however, as to the meaning of these figures. The apparent advantage in favor of the insured group results simply from their more favorable age distribution. A larger proportion of them are in the younger age groups where the death rate from the heart diseases is low, and only a small proportion of the policyholders are found in the advanced ages when the death rate from these conditions is very high. A comparison between the two series must, therefore, be strictly limited to each age period and to each of the sex groups separately.

The following table shows, side by side, the figures for males in the expanding registration area, compared with those for white insured males and for females in the registration area compared with insured white females.

TABLE II.

MORTALITY FROM ORGANIC DISEASES OF THE HEART. DEATH RATES PER 100,000 PERSONS EXPOSED. INSURED WHITE LIVES IN EXPERIENCE OF METROPOLITAN LIFE INSURANCE COMPANY, INDUSTRIAL DEPARTMENT (1911 TO 1916) AND GENERAL POPULATION EXPERIENCE OF EXPANDING REGISTRATION AREA OF THE UNITED STATES (1910 TO 1915).

Classified by Sex and by Age Period.

AGE PERIOD	MALES			FEMALES		
	M. L. I. Co. (WHITE)	U. S. REG. AREA	PERCENTAGE M. L. I. CO. OF REG. AREA	M. L. I. Co. (WHITE)	U. S. REG. AREA	PERCENTAGE M. L. I. CO. OF REG. AREA
All ages	125.9	147.0	85.6	137.0	140.7	97.4
1 to 4	7.0	7.6	92.1	6.4	7.6	84.2
5 to 9	14.9	12.6	118.3	18.2	15.3	119.0
10 to 14	22.7	16.6	136.7	31.4	21.2	148.1
15 to 19	28.7	19.7	145.7	31.2	20.4	152.9
20 to 24	28.5	20.0	142.5	30.4	23.0	132.2
25 to 34	51.6	33.4	154.5	45.6	36.9	123.6
35 to 44	120.1	76.0	158.0	92.6	76.8	120.6
45 to 54	259.0	175.5	147.6	201.1	160.9	125.0
55 to 64	641.2	474.4	135.2	526.8	409.2	128.7
65 to 74	1624.2	1213.8	133.8	1443.0	1044.1	138.2
75 and over	3033.1	2665.6	113.8	2703.1	2438.6	110.8

Thus compared, a very different picture is presented, for, with the single exception of the period of early childhood, namely, one to four years, the death rates are much higher for the insured group than for the general population. It is especially at the working ages of life that the disadvantage of the policyholders is evident. The facts of mortality from organic diseases of the heart, as for tuberculosis, show with advancing age the cumulative effect upon the vitality of wage-earners of more severe conditions of life and work, and, perhaps, of less favorable hygienic circumstances than are found in the general population of the United States.

This conclusion is apparently substantiated when we compare the relation between the death rates of the two sexes in the population and in the insured group. We find, for example, in the twenty-year age period from 25 to 45 years, very much higher rates for males than for females in the wage-earning element. On the other hand, in the general population, females at these ages do not enjoy any such advantage; in fact, the rates are slightly higher for them than for the males.

This would seem to be the result of the severer strain of life and work to which male wage earners are exposed.

The trend of the death rate from organic heart diseases in the industrial department of the Metropolitan Life Insurance Company during the six years is interesting and is in marked contrast with the tendency shown by the figures of the general population. In the insurance figures the rate for 1916 is lower than for 1911 (140.2 as compared with 141.8). This represents a decline of 1.1% in the period. On the other hand, in the expanding registration area the figures show a very considerable increase in the six-year period from 140.9 in 1911 to 150.1 per 100,000 in 1916 (6.5%). It is quite true that in both experiences there is a certain irregularity in the trned; but the rates for the insured group very generally speaking show a downward tendency, whereas those for the population, especially since 1913, show a continuous rise. The changes that have occurred in the population figures are even more strikingly brought out when we go back a number of additional years. In 1900 the registration area rate was only 111.2 per 100,000; by 1904 it had, through continuous increases, reached 133.4. From that year until 1911 there was considerable fluctuation; the 1911 rate, 140.9, marked a 26.7% increase over the figure for 1900.

The following table presents the trend of mortality among insured wage-earners in the years 1911 to 1916.

TABLE III.

MORTALITY FROM ORGANIC DISEASES OF HEART. CLASSIFIED BY COLOR, AND BY SEX. DEATH RATES PER 100,000 PERSONS EXPOSED. SINGLE YEARS IN PERIOD 1911 TO 1916. EXPERIENCE OF METROPOLITAN LIFE INSURANCE COMPANY, INDUSTRIAL DEPARTMENT.

YEAR	PERSONS	WHITE		COLORED	
		MALES	FEMALES	MALES	FEMALES
1911 to 1916	140.1	125.9	137.0	191.0	202.0
1916	140.2	126.0	135.8	197.2	212.9
1915	136.7	119.4	136.1	183.9	207.1
1914	138.1	125.5	134.6	191.5	193.1
1913	140.6	127.3	137.2	194.6	193.9
1912	143.8	129.4	139.5	202.6	205.7
1911	141.8	128.8	139.9	175.5	198.7

The increase in mortality from organic heart diseases which we have just discussed for the registration area has, in recent years, given rise to the prevalent opinion that there has been a marked increase in the so-called "degenerative diseases." Certainly this conclusion is not substantiated by the facts presented by the mortality data for insured wage-earners. If, however, we limit ourselves to a consideration of the expanding registration area alone, we should keep in mind that even these data, with their marked increases in the interval since 1900, must not be taken on their face as final. The Census Bureau itself has continually cautioned the readers of its reports on mortality statistics against comparing the more recent figures for organic diseases of the heart with those running prior to 1910. Very important changes in the statistical treatment of this return of death have been instituted by the Census Bureau. Certain statements of cause, such as "endocarditis" and "myocarditis" for decedents over 60 years of age, which were formerly excluded from this title, are now classified under it. Methods of treating jointly reported causes of death as well as the accelerated tendency of physicians to report more definitely the conditions causing death, have undoubtedly resulted in the increased reporting of organic diseases of the heart. The evidence, therefore, is clear that a large part, at least, of the increase in the death rate of the heart diseases is fictitious, resulting merely from changed procedure; and, so far as this concerns insured wage-earners, where the greatest amount of increase might be expected, it does not show at all.

"Organic diseases of the heart," International List Title No. 79, as compiled in this present study, includes all chronic valvular diseases, fatty degeneration, chronic myocarditis and chronic dilatation. It includes a number of deaths which are ascribed by physicians to "heart disease" without further definition. It also comprehends chronic heart diseases of rheumatic origin. On the other hand, the title does not include acute endocarditis, acute myocarditis, "endocarditis" or "myocarditis" with no further qualification, for decedents under 60 years of age. Deaths reported as due to pericarditis and those reported as due to any indeterminate cardiac symptoms such as "palpitation of the heart," "functional disease of the heart" and others are not included.

DR. CARROLL C. BURPEE RECEIVES COMMISSION.—Dr. Carroll C. Burpee of Malden, a children's specialist and general physician, has received a captain's commission and has been ordered to report at once to Fort Oglethorpe, Georgia.

MILITARY ORTHOPEDIC SURGERY: ITS SCOPE AND AIMS.*

BY SIR ROBERT JONES, C.B., CH.M., D.SC., F.R.C.S.,

Major-General, A.M.S.; Inspector of Military Orthopedics.

I HAVE been requested to state briefly the way in which we deal in this country with the group of cases classified under "Military Orthopedics."

NATURE OF CASES: DEPARTMENTS OF AN ORTHOPEDIC CENTER.

Both at home and in America the definition practically covers the surgery of the extremities. The Army Council Instruction includes under the term "orthopedic" ankylosis of joints, deformities and disabilities of the feet, malunited and ununited fractures, injuries to the peripheral nerves, and conditions requiring the transplantation of tendons. This represents a very large proportion of the injuries of war, so that constant effort is being made to increase our accommodation, which is at present inadequate. We opened our first orthopedic hospital in Liverpool in 1915 with 250 beds, and now we have centers scattered over Great Britain and Ireland with well over 25,000 beds

In organizing an orthopedic center we decided to have every department represented, and that these departments should be so related that while they interdigitated they should not overlap. Our experience of uncontrolled special departments led us to conclude that they were lacking in a sense of proportion, and that cases were being bathed, massaged, or electrified which required fundamentally different treatment. Unless these special departments are guided by men with an orthopedic training they might as well not exist. In one institution which we visited we found several men being massaged who should have had their torn nerves sutured. Others being electrified required preliminary tenotomies, while the subjects of arthritis were undergoing harmful movements in Zander machines. Again, attempts were being made to break down old septic joints which required the gentlest care. From all the evidence it was clear that special departments should be controlled by well-trained surgeons, and remain in association with orthopedic centers.

An orthopedic staff will consist of neurologists, operating surgeons and their assistants, and the chiefs of departments. Consultations are encouraged and take place between the chiefs of the various sections, and the powers and limitations of each department are soon appreciated. The coöperation between the departments is of the most friendly character, and the chief of massage is in constant touch with the chiefs of electrotherapy and curative workshops.

The departments for treatment consist of: (*a*) Curative workshops; (*b*) gymnasium; (*c*) massage; (*d*) electrical treatment; (*e*) baths.

THERAPEUTIC VALUE OF WORK: ACTIVE AND PASSIVE MOVEMENTS.

Perhaps the most interesting development is the curative workshops. Obviously, a very large proportion of the inmates of an orthopedic center are of chronic type. Many of them have passed through various hospitals and have undergone several operations. Their moral fiber has been weakened by prolonged strain, and they have lived a life of painful indolence for many months. To such men occupation is essential to their recovery, and the curative workshop has been to them a priceless therapeutic boon. For the initiation and organization of these workshops the nation is deeply indebted to King Manuel, assisted by the princely generosity of the British Red Cross.

These shops have a double curative value—the psychological and the mechanical. As soon as a derelict finds himself once again a productive agent he becomes transfigured. Hope replaces despair, and we find this mental reaction soon produces its physical changes. The power to order a man to work is practically never exercised, for we obtain our ends more effectively by persuasion and example. Work is, therefore, very popular, and is, in addition, accompanied by rewards and privileges.

The mechanical therapy is of two kinds—direct and indirect. A man with a stiff foot, which he is disinclined to use, may be given a job to do with his hands. In the interest which the work inspires he forgets to nurse his foot, which almost unconsciously, and often very rapidly, becomes again mobile. A knee joint which could not bear the continued strain of

* Reprinted from the *Lancet* of July 27, 1918.

working a treadle will, perhaps, improve in function quickly while the patient, forgetful of his injury, is working with a saw. This is the indirect method of attack.

The direct is invoked when we give a man with a stiff shoulder paper-hanging or white-washing in order to loosen it, or screw-driving to pronate or supinate his arm, or a plane to mobilize his wrist.

The governing principle in regard to curative work is founded on the well-grounded belief that active movements are of infinitely greater value than passive movements. Active movements by exercise in one of its various forms have a direct curative effect upon the muscular structure. Passive movements are sometimes essential in order to stretch or flex a joint in preparation for active exercise, but in war injuries movements must be supervised by an experienced mind.

Work in the gymnasium is rendered attractive by games carefully devised for definite objects. If these games are competitive they often prove most helpful to the functional element so often grafted upon the organic. Although associated regional types of disability are grouped in classes, we depend mostly upon individual attention. A good instructor has a hundred eyes, can detect and watch men with special disability, and he always knows the danger of over-exercise.

Massage and electrotherapy are governed by well-considered surgical principles both in regard to the types of graduated contractions induced in order to stimulate normal psychological action and the maintenance of uninterrupted relaxation in paresed muscles. We lay it down as a fundamental principle that muscles must not be massaged while they are under tension. In drop-wrist not for one moment is a patient allowed to palmar-flex his wrist; it must be kept dorsi-flexed while either being massaged or while undergoing electric treatment.

In all centers we have artists and modellers, and careful pictorial records are kept of the various types of deformities.

INSTRUCTION IN MILITARY ORTHOPEDIC SURGERY.

Shepherd's Bush Military Orthopedic Hospital, London, is typical of some 15 similar centers situated in large industrial centers over Great Britain and Ireland. Around each of these centers is grouped a series of auxiliary hospitals supervised by the parent staff.

It is desired to make these institutions educational in order to disseminate orthopedic knowledge among men who will have to deal with after-war problems. Intensive instruction is being given at Shepherd's Bush, Liverpool, and Leeds, and in three months a well-trained young surgeon will have thoroughly grasped the fundamental principles.

We have been immensely indebted to the United States, who, as soon as they entered the war, sent over my friend Major Goldthwait and 23 extremely well-trained orthopedic surgeons. This was a delightful gift for the duration of the war. In addition to these, we have placed at our disposal 50 American surgeons of junior rank, who can both help us in our work and at the same time undergo a training.

Even yet—such has been the demand upon our young men—we have very few Britishers undergoing training. This is most unfortunate. A young surgeon would be so much more useful and adaptable at the front if he had undergone an intensive training in the surgery of the extremities for three months.

For educational purposes congresses are held twice a year, when the staffs from all the hospitals meet to discuss and relate experiences; while every three months visits are arranged between centers geographically convenient in order that they may link up in efficiency.

THE WORK OF THE CENTERS: RESTORATION OF PATIENTS.

The operative work done in these centers consists largely in rectifying the deformities of war—arthrodesis of joints in good functional positions when they are ankylosed in bad ones; bone-grafting and other reconstructive measures for bony deficiencies and non-union; lengthening of shortened limbs and readjustment of malunited fractures; the fixation of flail joints in good functional position; and tendon transplantation for various conditions.

We have included injuries of the peripheral nerves in our orthopedic list because they often require pre-operative, operative, and post-operative treatment, and they were the type of case which at the beginning of the war were found to be neglected owing to pressure on beds. Such cases are most carefully examined

by neurologists, who work in close conjunction with the surgeon. In this way the nerve cases are under admirable control, and we endeavor more and more to segregate the cases requiring suturing under the care of those men who do the work best. A feature of the neurological work is the success which has attended tendon transplantation in irreparable damage to the musculo-spiral and posterior interosseous nerve.

Distinguished general surgeons overlook the work of each of the centers.

There has been a very natural anxiety on the part of the War Office at the prolonged retention of men at the orthopedic centers, but when the other side of the picture is presented and it is realized that over 70 per cent. of the cases are returned to military life it is evident that the patient care devoted to them is justified. The orthopedic hospital is the only link which makes it possible for the Pensions Ministry to make a useful citizen of a disabled soldier. The regret we must all feel is that so many of the deformities which we have to rectify might be avoided were surgeons more generally instructed in mechanical principles.

More recently—to expedite the process of cure, to diminish the time of hospital treatment, and to prevent the formation of these chronic disabilities—steps have been taken to bring suitable cases from overseas to the orthopedic hospitals. They are labelled "orthopedic" and taken in convoys direct to the centers. The stay in hospital is in this way much diminished, as the facilities and equipment are such as to ensure that the best thing shall be done and at once.

SUGGESTIONS AS TO PREVENTIVE METHODS.

Another useful method of improving treatment is that of instructional propaganda. Command depots are visited monthly by orthopedic surgeons, and the doubtful cases are discussed in groups. Instructions or suggestions are sent to the various hospitals all over the country dealing with preventive methods. The following suggestions, drawn up by the consultants, may be useful as an idea of what is being done.

(*a*) *Gunshot injuries through joints, followed by suppuration, generally result in ankylosis.*—The positions of greatest usefulness in such conditions are:—

Shoulder.—The arm should be kept abducted to about 50°. The elbow should be slightly in front of coronal plane of body, so that when it is at right angles and the forearm supinated, the palm of the hand is towards the face. The arm is placed in this position, while the scapula retains its normal position of rest. The humerus being fixed to scapula at angle indicated, the arm can be lifted to a considerable height by scapular action.

The arm should not be kept more abducted than 50°, otherwise it may not be possible to bring it down to the side.

Under no circumstances should the joint be allowed to ankylose while the arm lies hanging down, for the functional result will be so bad as to necessitate an osteotomy later on to correct the adduction.

Elbow.—The position must always be influenced by the patient's calling, but in the majority of cases the best functional results are obtained when angle between humerus and forearm is a little greater than a right angle—about 110°. The forearm should be supinated so that the palm is directed slightly upwards. If both elbows are ankylosed one should be about 110° and the other 70°.

Wrist.—All injuries of wrist-joint should be treated with wrist slightly dorsi-flexed, with fingers spread well out (see paragraph (*e*) later). There should be no exception to this rule.

Hip-joint.—Ankylosis should be secured in position of slight abduction, the thigh extended and slightly rotated outwards.

Knee.—It should be fully extended, care being taken to avoid hyper-extension.

Ankle.—The foot should be kept at right angles to the leg, in a very slight varus position. A valgoid position of foot is to be specially avoided.

(*b*) *Gunshot injuries of joints followed by rapid healing.*—During the period of rest these joints should be kept in the same position as indicated above.

If there is no considerable damage to joint surfaces movement may be expected in many of these cases if ample time is given for recovery from inflammatory change. Any attempt at breaking-down under an anaesthetic is to be deprecated. Such joints require very careful handling.

The shoulder will serve as an instance. Without removing the shoulder abduction splints.

the joint should be well massaged for a few days. If there is no reaction it is safe to remove the arm a few degrees from the splint and let it down again. If this is not followed by reaction it may be repeated every day and the patient encouraged to lift it actively from the splint. When he can do this easily the splint can be bent a few degrees (adducted) so that further movements can be practised. Massage and electric stimulation of the deltoid are indicated. The principle is one of alternative attack and rest. If reaction occurs a further rest of the joint is needed.

A similar principle applies in injuries of other joints.

(*c*) *Injuries involving tissues in neighborhood of joints, resulting in suppuration, deep scarring, etc.*—No attempt should be made to break down these cases under an anaesthetic.

The knee-joint will serve as an example. When by massage and other tests there is reason to expect no inflammatory reaction, graduated movement may be attempted. The knee is straight, with, say, 10° of movement; a splint is moulded allowing the joint to flex to 25°. The limb is bandaged to the splint. When the joint has yielded, so that limb lies easily on splint, it should remain in that position for recovery of strained tissues to occur. Movements are then practised by patient within range of 25°. If voluntary movement is free within that range a greater angle is given to the splint and treatment is repeated. If the joint becomes tender and stiffens in the new position it must be placed back in straight position and rested. When movement has been secured to about 45° movements may be continued in the gymnasium.

In all extra-articular lesions of the axilla and its folds, where ankylosis of the joint is not expected, the arm should be placed in the fully abducted position.

(*d*) *Injuries occurring at distance from joints, fractures, etc., with inflammatory changes occurring in muscles.*—No joint, not the seat of an arthritis, should ever be allowed to stiffen permanently.

In all fracture cases where it is possible to move the joint without interfering with the fixation of the fragments this movement should be practised. One gentle movement in each direction once in two days is sufficient. Passive movements which involve frequent repetition of the same movement are unnecessary and often harmful.

If the joint is very stiff after prolonged immobilization, and where the bone is supposed to have united, great care is required. The bones above and below the joint should be well splinted while movement is started if necessary under full anaesthesia. Unless the joint yields readily the surgeon should be content with a few degrees of movement, the joint should be secured for a few days, and the surgeon may renew his efforts from time to time. Bones are soft for many months after a gunshot injury, and many fractures have occurred again as the result of attempting to move the joint without first protecting the bone from strain. This is especially true of fractures above the knee and near the shoulder-joint.

(*e*) *Stiff fingers.*—All splints for dorsi-flexion of the wrist, especially where fractures or inflammatory changes have occurred in metacarpals and phalanges, should be moulded in the position the hand takes when holding a cricket-ball.

Particular care should be taken not to overextend the metacarpophalangeal range, as stiffening in this position is most intractable. The palmar arch should be maintained concave, the short dorsi-flexion splint should leave ample room for movement in the metacarpophalangeal range, and should be moulded to allow of abduction of thumb. At earliest possible moment active movements should be encouraged, and massage and passive movements should be gently practised. The so-called breaking-down the fingers followed by swelling from effusion retards recovery. The movements should be very gentle to be effective.

General remarks.—In all cases where the injury does not directly involve the joint, massage and active movements should be encouraged.

Even when a joint has to be fixed in consequence of a fracture in the neighborhood, early massage and electric stimulation is needed in order to prevent adhesions forming in the muscle sheaths. The patient should also be taught how to contract his muscles while the limb is splinted.

Splints should not be applied to the fingers except where they are the actual seat of fracture or active inflammation.

In all fractures of the forearm the hand should be supinated.

All splints should be removed from the upper extremity at the earliest practicable moment. As bones take a very long time to harden, the lower limbs, inasmuch as they have to bear the body-weight, should be guarded against deformity during walking. Neglect of this precaution has given rise to many cases of bowing and overlapping of the femora.

All gunshot injuries of the joints have to be treated with great gentleness, and the breaking-down of such cases under an anaesthetic is to be generally avoided. Our pre-war experiences are not applicable to gunshot injuries.

All scars about joints should be kept extended during healing unless a contra-indication exists. Care should be taken to prevent equinus at the ankle taking place during the treatment of other lesions of the limb.

As patients have to be discharged while still under treatment, it is imperative that full instructions should be given to the local Pensions Committee as to further treatment.

These instructions give the various surgeons, many of whom have not had an orthopedic training, fundamental principles upon which they can act.

ARTIFICIAL LIMBS.

All the artificial limbs in the country were made first of all at Roehampton House in London. This hospital, though not included in the orthopedic scheme, is staffed by orthopedic surgeons. It was soon found necessary to decentralize, and limbless hospitals were started in Scotland, two in Ireland, and one in Wales. Quite recently it has been decided to start fresh centers in direct connection with the orthopedic centers at Liverpool, Leeds, Manchester, and Birmingham. Three of these have already started work. They are under the joint control of the War Office and the Pensions Ministry. The patient remains in the Army until his limb is fitted.

But the curative workshops can be utilized in an invaluable way by the facility with which they can turn out *provisional limbs* of a cheap but effective pattern, by means of which the soldier can be provided with a method of locomotion as soon as he can bear his weight on the stump. He can very soon discard his crutches and move about with a stick.

A further boon has been conceded. He can go to his home on furlough with this provisional limb until such time as he is required to enter the "limbless" hospital for the adjustment of the permanent artificial leg.

TREATMENT AND TRAINING OF PENSIONERS.

Such are the means adopted to restore function and render the patient fit to return to the Army or to go back to civil life. If sufficiently restored, the patient may go to a Command Depot for further training, or be remitted direct to his unit and become again a serving soldier.

If he is so disabled as to be unfit for further service he is discharged from the Army and becomes a pensioner, coming under the supervision of the Pensions Ministry. The discharged soldier, now a pensioner, may be able to go back to his old trade, or he may find a new job in which he may be employed without further training; or he may be re-educated for another trade or craft. Arrangements are being made by means of classes in the technical schools, through private employers, or by the establishment of new institutions, in which he can get both training and treatment.

Many of the orthopedic pensioners require very prolonged treatment, necessitating close observation for a considerable time, combined with massage and electrical treatment, etc. For this purpose numerous out-patient clinics are required and set up. One paramount consideration should be kept steadily in view by the Ministry of Pensions in this connection. Any provision for the treatment of the orthopedic pensioner must be made so as to allow supervision, control, and inspection by adequately trained surgeons. Continuity of treatment is lost otherwise, and the patient, careful work of months may be undone.

Organization.—The complete organization in relation to the treatment and training of the pensioner should include: 1. An out-patient clinic, with massage and electrical installation. 2. Beds for in-patients. Both these to be inspected and supervised by specially trained surgeons. 3. Hostels. 4. Means of re-education.

Military orthopedic centers exist now in all the commands. In the Scottish Command there are three—at Aberdeen, Glasgow, and Edinburgh. At all three, and at Dundee as

well, arrangements have been, or are being made for the correlated treatment and training of the pensioner.

In the Irish Command there are two orthopedic centers—Belfast and Dublin.

In Wales the Welsh Metropolitan War Hospital, Whitchurch, near Cardiff, is the main orthopedic center. A second one is in the process of being established at Newport, Mon. Arrangements are now being made at Cardiff to coördinate the treatment of the orthopedic pensioner with the military orthopedic center at Whitchurch.

In England there are two orthopedic centers in the Northern Command—at Newcastle-on-Tyne and at Leeds. In both the pensioner is to be dealt with by association with the organization of the military centers.

In the Western Command (in which Wales is included) there are in addition centers at Liverpool and Manchester.

In the Eastern Command a military orthopedic center is being organized at the military hospital at Edmonton.

In the Southern Command centers exist at Birmingham, Netley, Oxford, Reading, and Bristol; and in the London area there are Shepherd's Bush and Tooting Military Orthopedic Hospitals.

For the orthopedic pensioner it is necessary that all schemes of treatment shall be closely allied to these military orthopedic hospitals, so as to be able to take advantage of the special equipment and departments which are found there. The pensions beds must be either at, or closely proximate to, the orthopedic center, as it is impossible to reduplicate staffs.

Many more subordinate clinics are needed, however, in towns where recognized orthopedic centers do not exist. Such institutions should be affiliated to the nearest orthopedic centers in the several commands. As each command possesses at least one military orthopedic hospital, these subordinate clinics should be set up by the Ministry of Pensions after consultation with the War Office, and be periodically inspected by skilled orthopedic surgeons.

Such arrangements must be made if continuity of treatment is to be maintained and the pensioner is to be restored to health. The staffs for the pensioners' clinics should undergo an intensive training at an orthopedic center.

CONCLUSION.

Such are the scope and aims of military orthopedic surgery. Arising out of principles adopted for the treatment of crippled children, it has expanded into a huge organization of extreme military importance—first, with the object of receiving the serving soldier and sending him back to the fighting line; and secondly, to reconstruct and restore the functions of those so badly crippled as to be useless as fighting units, but who, if properly treated, may take their places as useful workers and efficient members of organized society.

The name "orthopedic" may be open to criticism as applied to war surgery, but it is not easily replaced. It is intended to cover a type of case which requires for its treatment a combination of specially equipped hospitals manned by well-trained operative surgeons of mechanical mind who will work in team and accord with heads of special departments. They must be loyally prepared to develop the work they are most fitted for to the complete exclusion of any other branch for which they have a liking, and they must all combine in an effort to make the institution they work in an abode of inspiration and contentment for the wounded. We have the teaching staffs represented in all these centers, but the more so-called general surgeons we can rope in, the more effective will we become.

"BIRTH CONTROL".*

By Mabel D. Ordway, M.D., Boston.

In the first place, I object to the term "birth control," as it is meaningless and conveys a false impression. Preventive measures may prevent conception in a large percentage of cases, but no human intervention can regulate birth any more than death.

The question of the prevention of conception appears to be a subject which is in the experimental stage in regard to reliable statistics sufficient to support argument. The evidence is at present too nebulous, too inaccurate, too bibolar, the same facts being used by some as arguments for, by others against preventive

* Read before the New England Women's Medical Society, Nov. 15, 1917.

measures. The difficulty at present lies in the fact that, as our own opinions are already formed, as we start with preconceived ideas, we can draw from the variety of views support for whichever side we take. With our present knowledge, we may merely state the benefits and evils, medical, social and moral, of the various methods used; and, as only intelligent individuals are supposed to find our advice valuable, let the patients choose for themselves. Of course each physician will lay emphasis on what he believes will ultimately work out best.

All methods have the same alleged general benefit: to prevent married people having children at inconvenient times, or from having more children than they can suitably rear and educate. Moreover, there are women who are neither physically or mentally fit to have children, and who, it is claimed, should not be cut off from marriage. All methods considered are contraceptive only, for all agree that to interfere with life once begun, however early, would be criminal, and no birth-controllist would allow this, although the differentiation of prevention from interruption of pregnancy is no easy matter. In fact, it has been put forth as a benefit that proper preventive measures would lessen the number of abortions. It may be argued that the advisability of the artificial regulation of life—the prevention of potentially useful citizens, as well as the regulation of death, or length of life of hopelessly sick persons—is a purely individual problem.

Continence is the method which all agree is best, if it is possible—the only method which ultimately will bring the human race out of all its sexual problems successfully. How can we bring this method into more general use? Certainly not by laying too much emphasis on perversions, but by creating a public opinion that continence is possible and consistent with health. A large percentage of people are suggestible and are able to do what they are taught to believe they can do. In the army, a year or more ago continence was regarded as a Utopian idea, whereas today it is considered the most practical solution. Although marital continence is in many respects a very different problem, ideas in regard to it are liable to change. The medical, social and moral reforms we can effect to bring this about will be the most permanently practical plan. In reaching this end, there will be overproduction, perhaps more so-called immorality. We may seem to be striving for the impossible, but there are now a far greater number of married people believing thus than there were generations ago; and this should be the end of which we should never lose sight. In individual cases we may have to use by-paths. As we evolve, we shall do away first with gross perversions, then with those which are so frequently used that it is often forgotten that they are perversions.

It is claimed by some that all preventive measures may cause salpingitis or permanent sterility. Admitting, however, that these may prove physically harmless in many cases, must it not be said in honesty to all people using these procedures that they may suffer psychic injuries? In conscientious, self-accusatory people, masturbation and preventive measures are very common causes of a regret which cannot be rooted out—far more common than the regret of having had too many children. Nowadays we know almost positively that the causes of certain mental troubles are chiefly psychic, and, therefore, we must be cautious about advising any sort of sexual perversion with its far-reaching, subtle power for undermining an organization, until its influence has been carefully investigated.

Nowhere could these problems be better worked out than in gynecological and obstetrical clinics. Such a study would doubtless stimulate other organizations to carry on investigations complete enough to afford evidence sufficient to support argument. A questionnaire might be filled out in all possible cases recording percentage of patients using contraceptive methods, methods used, causes of sterility other than gonorrhea and syphilis, percentage of sterile cases using preventive measures and methods used in such cases, percentage and causes of miscarriages, number of children in families using no prevention, percentage of family disruptions on account of attempted continence, efficiency of families with and without use of methods, percentage of salpingitis in women using measures of prevention and in women not using them (excluding known causes of salpingitis). Gynecologists and obstetricians will probably obtain the most valuable information, but alienists and neurologists will often come across cases where later effects are apparent and perhaps may be able to testify as to the number of cases where preventive measures play an important part from the enormous number of

cases where problems of sexual relationships form at least an exciting cause.

As to public and indiscriminate distribution of information about such important matters by non-medical people, what physician would approve of this? What need is there of it? Will not physicians in private and out-patient practice suffice to give advice? All persons acknowledge that there is a tremendous social problem involved. In these days of high ideals, self-control, self-sacrifice and discipline are the key note of life. The sexual problems, increased by the war, are overwhelming, and it is upon us, as physicians, that much of the responsibility will come in guiding in a far-sighted way. We must progress or regress. Any real improvement will be slow and will necessitate changes, some of which will threaten to modify our present social organization. Now, as perhaps never before, the gift of life cannot be regarded too seriously. However radically our views may differ, surely the good in each will be preserved, since we all desire the betterment, physical, social and moral, of the human race.

Not very many years ago a sect, neither medical nor scientific, arose to fill a psychic need neglected by the medical profession. Now again, a non-medical organization is attempting to inform the people in regard to a vital problem of a distinctly medical character. Let us not evade a question which belongs to us, because it is difficult to answer with our present knowledge, but let us place the question upon a scientific basis by accurate investigation, so that our patients may not be forced to seek advice from inaccurate lay sources.

HEARING TEST WITH VOICE TO DETECT MALINGERING.

By Capt. John F. Callahan, M.C., U.S.A., Brockton, Mass.

The success of this test depends on the following law, which not only applies itself in audition, but also to other senses which we will not dwell upon in this paper. It is not a law of auditory responses alone, but applies to all responses of stimuli which follow this law. It was an observation of the ancients that the greater obscures the lesser pain, and, in a general way, all strong sensations prevent the appreciation of the weaker ones, whether they are in terms of the same or different senses. In this paper we will confine ourselves to the application of the law as it is concerned in hearing.

Law. Stimuli which are similar in all their properties except in intensity are not disassociated by the mind, and only the stimulus which is of the greater intensity is registered in the brain so that we are conscious of it.

When a sound reaches each ear with the same intensity we are conscious of hearing it in both ears. When a sound reaches each ear with different degrees of intensity we are conscious of hearing the sound only in the ear where intensity is the greater. It is easily demonstrated that we are conscious of hearing a sound only in the ear that receives the most intense vibration. In any ear test where two sounds, one of which goes to each ear, but come from different sources, rarely, if ever, can these two sounds have the same pitch, timbre or intensity.

Tests using the human voice which depend on the patient not knowing in which ear he really hears the voice are an insult to the intelligence of the suspected malingerer, and whether one or two voices are used in such a test the patient may, by concentrating his attention to his good ear, suppress what he hears in his supposedly deaf ear. The most we could expect would be to trick a patient whose mental aptitude was not very sharp, and even then all we could find out would be that he was not totally deaf in that ear, but not the extent of hearing that he had.* The same result is easily obtained with my tuning-fork test, which consists of 4 to 8 feet of rubber tubing connected with two funnels which are placed opposite each ear and the vibrating tuning fork applied to the tube. This entire apparatus costs about 75 cents and requires no technic in assembling it.

We know that in the human voice we have the richest and most agreeable monotone musical instrument in existence, but by reason of its timbre and inflection we have the means of recognizing the fact when there are two or more voices, even though the pitch and intensity are the same.

In our ear tests we must eliminate all noise-producing instruments, as we deal only with sounds. Sounds have characteristics,—loudness, pitch and timbre,—and are the result of

* Boston Medical and Surgical Journal, Aug. 15, 1918.

regular vibrations which follow a law. Noise, on the contrary, is a mixture of sounds collected together under no law, or under some law so complicated that the ear neither understands nor feels it.

Our tests, therefore, deal only with sound which must have for its source a single instrument; in this we can make no error.

The only practical test of hearing is the ability of the individual to hear conversation. The most practical use that the human ear has is to conduct to the mind messages from the human voice.

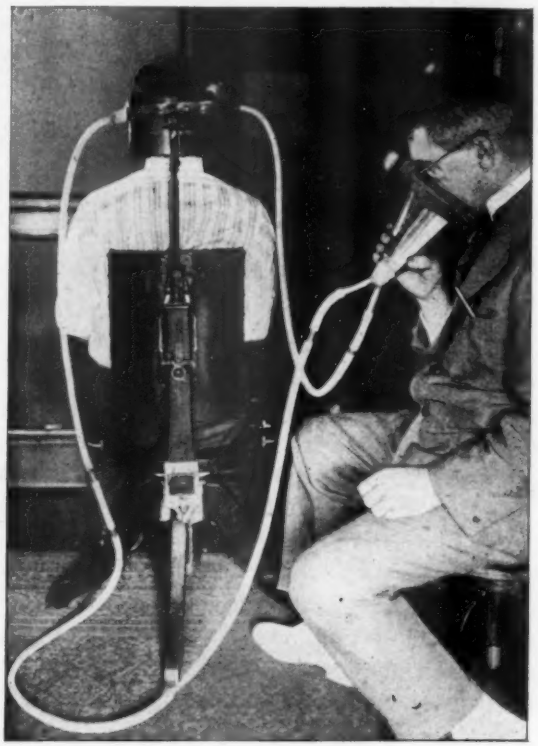
Tuning forks, watches and vibrating acoumeters have a field of their own in testing the auditory apparatus, but they lose all their value when we wish to test the amount of hearing, as the only practical test of hearing is the ability to hear conversation. Therefore, no matter what mechanical apparatus may be used in estimating the power of audition, no test is complete which fails to have as part of its system a means of measuring the distances at which vocal sounds are received. It does not seem fair to conclude that we know that a patient has two-thirds of hearing just because he could hear a vibrator at a certain distance. The hearing of a watch, vibrator or a tuning fork is no indication whatever of the hearing of conversation or whisper, and in the latter the pitch and intensity are fairly constant if care is taken in every examination that the whisper be as loud as possible and produced only by the residual air.

If we did not wish to use the human voice in this test we could use a phonograph, and then we would have as near as possible something that would have a standard value, where the intensity would be the same in testing different individuals.

Apparatus used in this test consists of rubber tubing, 3/8 inch hole, a 3/32 inch wall (any size may be used). The distance that the patient can hear whispered voice through this tubing with the good ear is measured. I usually use a tube going to the good ear that is about two or three feet shorter than the greatest distance that he can hear whispered voice through this tube.

The length of tubing to the deaf ear should be about 2 or 3 feet to start with, and we are able with simple metal couplings to keep adding more tubing as the case requires.

To the ends of the tubing that are applied



near the patient's ears I attach aluminum funnels. To the distal end of both tubes is attached what was once an ether cone, which has been covered at one end with tin. Two tubular extensions are fitted in this end and the rubber tubing is connected to these. The other end of the ether cone is placed over the mouth and nose of the examiner, so that it fits closely to the face.

The Application of the Test in a Patient with Both Ears Normal. With the same length of tubing connected to each ear and to the mouthpiece the voice whisper or conversation is heard in both ears. If we used a 20-foot tubing going to one ear and a tubing 4 inches shorter going to the other ear, the patient is conscious of hearing the voice in the ear that is connected with the mouthpiece by the short tube. If we take two tubes of the same size, one 4 feet long and the other 3 inches shorter, he can hear only in the ear that is connected with the short tube, which is 3 feet, 9 inches, and is unable to hear in the ear that is connected with the tubing that is 4 feet long, although either ear can hear the same whisper in this tube at 20 feet. This latter test easily demonstrates the law of impulses and how they are registered in the brain when we apply that law to the sense of hearing.

Test No. 2. Patient claimed that the hearing in his right ear was perfect but that he could not hear anything in his left ear.

He heard whispered voice at 8 feet from good (R.) ear), and in all tests he claimed he could not hear anything in left ear. In good ear he could hear whisper through a 15-foot tube. With a 13-foot tubing connected with face-piece and funnel going to good ear, and a 2-foot tubing likewise connected to funnel going to left (deaf) ear, he claimed he could not hear anything; he had previously heard the same whisper through a longer tube going to good ear. The reason that he said that he now could not hear the whispered voice was because he was hearing it in his left bad ear. I then increased the length of tubing going to his bad ear from 2 feet to a 4-foot tubing, through which he still claimed that he heard nothing. He refused to admit that he could hear the whispered voice until we had a 12-foot tubing attached to funnel going to left (bad) ear. The length used previous to the 12-foot was a 9-foot tubing. He, therefore, must have heard in his left ear at 9 feet through the tubing, as he only admitted hearing when he heard it in his good ear, and he could only hear it in his good ear when heard the loudest, and he heard it in his left (bad) ear at 9 feet because he heard it loudest in that ear. This is according to the law when applied to hearing. For example: When a sound reaches each ear with different degrees of intensity we are conscious of hearing the sound only in the ear where the intensity is the greater or where the sound is louder.

Suppose that when he had a 2-foot tube attached to bad ear and a 13-foot tube attached to good ear and patient claimed that he heard the whisper. We would then be unable to say which ear he heard it in. All we would have to do would be to uncouple one or the other tube, and after a few tries we could find out whether he was telling the truth or not. If he is really deaf in bad ear he will always admit hearing through the tube, as the tube going to good ear is always inside the hearing limits of his good ear. But when he hears it in his bad ear of course he will deny hearing anything—which means that we have caught him. The tubing can be increased in length by metal couplings, which fit snugly inside the tubing.

We can also try conversation voice through tube that we tested the whispered voice, as the result would be just the same in that he will only hear in the ear that he hears it the loudest.

TREATMENT OF SYMPTOMS AND COMPLICATIONS IN TUBERCULOSIS.

BY HERBERT F. GAMMONS, M.D., DEERWOOD, MINN.

WE are often called upon to treat the symptoms in the tuberculous and too often treat the symptoms to the utter disregard of the disease process itself. It has been the custom to prescribe certain remedies for these conditions which are only palliative and which, while relieving the symptoms, tend to mask the disease process itself, thereby increasing the activity of this process.

The old idea of cod-liver oil and whiskey was much more effective than some of the present-day treatments if they had only at the same time used natural processes of rest, fresh air, etc., in conjunction with the cod-liver oil.

The use of opiates to mask the cough, instead of treating the disease process *per se*, is greatly to be deplored in many cases, as well as the use of aspirin in fever and strychnia in the person who is weak and cannot work. We realize now that rest, as a rule, will stop the cough, decrease the fever and conserve and build up the energy as well as remove the toxemia by decreasing the inflammation in the affected areas and promoting fibrosis.

Creosote was formerly thought to be a specific in the tuberculous cases, and it is very surprising how much creosote is still being given to the tuberculous and in what large doses. It is just as reasonable to give tuberculin in large doses in the cases in which creosote is given, for the reason that the physiological result of each remedy is a sloughing off of diseased tissue.

As a rule, the tuberculous patient wants to be taking some medicine, and nothing pleases most of these patients more than a large bottle of bitter tonic. However, there are some cases with an impoverished blood that have made remarkable improvement in color and general feeling as a result of the use of hypodermic iron.

About ninety per cent. of the cough in tuberculosis is not necessary, and patients can be educated to stop a large amount of their cough-

ing and at the same time be instructed to cough properly, that is, by first emptying their lungs and then coughing at the end of expiration. Usually a patient will first fill the lungs with air and then cough at the end of inspiration, thereby producing a very severe strain on the lungs and not relieving the irritation.

If a patient has an incessant cough that is not due to a throat irritation that can be remedied, and the cough is not productive, it is necessary to give some very mild sedative occasionally until the physiological effect of rest has caused a cessation of the cough. The type of cough which is productive after much effort needs some so-called expectorant, and the ammonium salts give good results in this case. The type of cough with profuse expectoration needs some medicine at times to decrease the sputum and at the same time relieve the cough, and the elixir of heroin and terpin hydrate is very useful in this type as the terpin hydrate tends to decrease the sputum without increasing the inflammation.

Hemorrhage in the tuberculous is a symptom that oftentimes is as alarming to the physician as to the patient. It is necessary to recall the conditions producing hemorrhage in order to treat them successfully and intelligently. There is the hemorrhage due to ulceration of the side of a vessel which is of greater or lesser size, and the hemorrhage corresponds with the size of the rupture and also with the size of the vessel. Rest in bed will generally stop this type of hemorrhage, but it may be necessary to give some sedative to allay the cough and nervousness. The so-called toxic bleeding, where there are a few bright streaks, needs only rest in bed. The profuse hemorrhage in cases where there are ruptures of aneurysms in cavities, usually are not amenable to treatment because the patient is asphyxiated in a very short time. There is another type of bleeding where a cavity is gradually and slowly filled with blood from proliferated vessels which have ulcerated, and this type needs only rest in bed, as a rule. If there is a persistent bleeding with a large loss of blood, artificial pneumothorax must be resorted to and promises excellent results where there is a free pleural cavity. It is well to give a dose of magnesium sulphate to increase the coagulability of the blood, but the value of calcium salts is questionable as is also the use of remedies to reduce blood pressure.

Pain in the chest is a troublesome symptom at times, but it is often relieved by counter-irritants such as the hot water bag, and, in those cases where there is an adhesive pleurisy with the sharp knife-like pain, the adhesive plaster applied to immobilize the affected side gives immediate results. Lying on the affected side will often relieve pain due to rubbing together of dry, inflamed pleurae.

Spontaneous pneumothorax should only be treated by the specialist and almost always by withdrawal of air at intervals. Pyothorax and pleural effusions also need surgical treatment, as a rule.

Gastro-intestinal disturbances often frighten the patient into believing that he has a tuberculous bowel, but a few days on a very light diet will serve to relieve the acute cases, while with the chronic dyspeptic it is necessary to add some permanent change in the diet and also give some digestant, according to the needs of the case.

Laryngeal infections need, first, rest and then treatment by an expert on laryngeal tuberculosis. Oftentimes the tuberculous larynges have been over-treated, so that nature has been interfered with in relieving the inflammation and growing epithelium. I believe that the use of argyrol in a ten per cent. solution is the safest treatment for most of these inflammations without ulceration and the formalin in a two per cent. solution where there are abrasions.

The use of natural laxatives, such as bran and the mineral oils and dried fruits, should be strongly encouraged. If sanatoria would figure up how much is spent for unnecessary cathartics in a year the results would be astounding, I am sure.

There is one remedy that I believe is not used as much as it should be, and that is some nerve sedative to overcome the abnormal stimulation of the toxins and allow the patient to get more rest. It is very striking when we compare the results of the use of a few doses of bromides on these cases who are absorbing tuberculin into a system where the nerves have already been over-stimulated by impulses.

The physician who will use just as little medicine as possible, and as much encouragement as possible, with good, sound advice regarding the use of prolonged rest, food and fresh air, will get the best results. A little explanation to the patient regarding the course of the disease and how one is almost always sure of improving if one does as one is told will

invariably have a wonderful psychological and also a physiological effect that cannot be procured from medicine. It is, however, necessary to give some medicine to allay symptoms in some cases while at the same time nature is being assisted in all ways possible.

Clinical Department.

TETANUS WITH INCOMPLETE TRISMUS; RECOVERY WITH SERUM.

By Robert W. Angevine, M.D., Rochester, N. Y.,
First Lieutenant, M.R.C., U. S. Army.
[From the Medical Service of the Rochester General Hospital.]

A case of classical tetanus in a child of five years was recently observed and successfully treated in the wards of the hospital, the entire course of the disease lasting twelve days. The case was marked by general rather than local manifestations and even the trismus, so characteristic of the disease, was incomplete although definitely present. The case was one of insidious onset, without prophylactic treatment and with an incubation period of five days.

A male child of five years was admitted to the Children's Pavilion of the hospital in a semi-stuporous condition. Relatives gave a history of gradual development of stiffness of the limbs, accompanied by paroxysmal attacks of excruciating pain in the muscles. According to the ward records, the child fell down eight stairs six days before entrance to the hospital. He got up, cried, and after a time was again able to play. He had received a small lacerated area on the left arm, anterior surface, near the elbow. The child did not sleep well that night and two days after the accident was taken with convulsions and was seen in spells in which he would become rigid, cry shrilly, and, on partial recovery, complain of severe pain in the limbs. He developed a temperature of 101°, and intense sweating was noted. Chills were frequent.

The attending physician administered narcotics to relieve the muscular spasm and ordered a warm bath to be given twice a day. The physician stated that the limbs could be flexed only on employment of a fair amount of force. Muscle spasms were frequent and slight stiffness of the back was noted. Contractures of groups of muscles were present although not marked. Subjectively, the patient was very irritable, cried spasmodically and in a shrill voice. The pain was described as of a shooting type and referred chiefly to the left arm and muscles of the pectoral region of that side. Later the physician noted that symptoms were becoming more intense and sent the case to the ward of the hospital.

On entrance, the signs were more marked in severity; they had become more generalized and orthotonus had come on. The muscles of the neck and back were markedly contracted and the child would cry out with pain when effort was made to bend the back. During the spasms the feet were hyperextended. The abdominal muscles were contracted. Trismus now developed, but was incomplete and the mouth could be opened far enough when necessary during the entire course of the disease to allow the insertion of a swab. The mouth could not be opened sufficiently to allow examination of the throat, and made the taking of a throat culture difficult. The patient was able to drink milk during the period of sickness. Dysphagia was not present at any time. Chills were frequent and sweating marked. It was noticeable that the relaxations between paroxysms of pain were not complete. Spasms were brought about by slight tactile stimulation.

On examination the child was unable to sit up. The skin was moist and dermatographia was evident. Superficial reflexes were exaggerated. No Kernig or Babinski was elicited. Sensibility, tactile and thermal, was normal. The tongue had been bitten. The lesion on the arm was slightly raised, due to crust formation; measured approximately 1 cm. in width, and was surrounded by a zone of redness and swelling.

Pulse, temperature and respiration, on admission, were recorded as 110, 101.2, and 35, respectively. Fluid, taken by lumbar puncture on the second day of hospital care, was reported normal as to pleocytosis and globulin and with a negative Wassermann and colloidal gold curve. The culture taken from the left side of the tongue and left tonsillar recess gave a few fungus threads, a diplococcus, and a small spored oidium-albicans. The urine was reported as negative and the white count and red corpuscle examination revealed nothing of note.

On admission to the ward, the patient was given a sponge bath at 85°. Sodium bromide, in ten-grain doses, was given every four hours. Catharsis was ordered. The mouth was swabbed

out with Seiler's solution every two hours. Liquids constituted the diet. On the first day the wound in the skin of the arm was deeply cauterized with nitric acid.

According to Leishman and Smallman,* the injections of serum have the following order of merit: intramuscular, subcutaneous, intrathecal, and intravenous. After the development of symptoms, according to the report, the cutaneous method alone is insufficient and a combination is indicated. In this case no local injection of antitoxin into the muscles about the wound was attempted as clinical signs indicated absorption by the nervous system. On the first day, 10,000 units of anti-tetanic serum were injected both intraspinously and intravenously, and 20,000 units were given intramuscularly. The temperature rose 3.5° in the eight hours following these injections. It fell 1° in the next period of eight hours. The second administration of 20,000 units intramuscularly on the next day was followed by a rise of 1°, bringing the figure to 103.6.° Lumbar puncture was accompanied by a convulsion lasting about one minute. Magnesium sulphate was given subcutaneously on the second day, 2 cc. of a 25% solution being injected every six hours. The report for this day stated that the patient slept in short periods, but would wake, "stiffen out, with thumbs clenched in the fingers" and would then grasp the left arm with the right hand, evidently indicating somewhat greater localization of the spasms to the left side.

On the third day 20,000 units were given intramuscularly and a like amount intravenously. Morphia was necessary to quiet the patient. Digitalis was given in subcutaneous dosage, as the pulse had risen to 160 and was weak and irregular. A warm sponge was also given to combat restlessness. On the following days, amounts of 40,000, 20,000, 10,000 and 10,000 units of antitoxin, respectively, were given intramuscularly. The temperature read normal eight hours after the last injection.

During the brief illness the child lost considerable weight and was very weak. He remained in the hospital for a short period after active treatment was discontinued and was discharged well to a convalescent home 12 days after admission to the hospital.

* Sir William B. Leishman and A. B. Smallman, *Lancet*, 1, 1917. p. 131.

NON-SURGICAL CURE OF INCOMPETENCE OF THE ILEO-CECAL VALVE.

By John Bryant, M.D., Boston.

Faulty medical instruction is responsible for the fact that many medical men do not care if the ileo-cecal valve be competent or not. Roentgenologists of experience, as Case and Cole, know that this point of view is wrong, and that incompetence is in and of itself a cause of symptoms. Granting the undesirability of incompetence, however, what is to be done about it?

Kellog's surgical treatment leaves something to be desired. On the other hand, Case has declared that he has never seen a valve become competent under non-surgical treatment. A few persons will be found who argue on what they call a common-sense point of view, that it must occasionally happen that a valve will yield under excessive strain and return to normal when the strain is removed; these persons are undoubtedly correct, but they have lacked proof.

It is important to supply proof of the possibility of non-surgical restoration of the valve to competence, if pessimism and continued lack of interest in the subject are to be avoided; and since one positive case is worth many negatives, this second note on such a positive case is presented, particularly as Case, in a personal communication, questioned the accuracy of the earlier note.

Mr. S., aged 64, was first given a roentgenologic examination on October 7, 1915. At this time, as noted by three observers, Dr. Dodd, Dr. Morrison and myself, barium flowed back through the valve before the enema had half filled the cecum.

On April 1, 1916, Mr. S. was examined again by the same three observers. At this time it was impossible by firm pressure to force any of the enema back through the valve, even after the cecum had been filled for some time. There was no room for doubt concerning the competence of the valve. This change was accompanied by a marked improvement in the general physical and in the local intestinal condition of the patient—not to mention an improvement in posture and a loss of some thirty pounds of excess weight.

On October 19, 1917, Mr. S. was given a third examination by Dr. Morrison and myself, with the following result: "A barium

enema passed readily over to the cecum; the cecum is slightly dilated, but the valve is competent and the colon seems to be of good tone." As in April, after the cecum had completely filled, an attempt was made to force barium back through the valve, but without result. Mr. S. still has cardio-renal disturbances, but digestive symptoms remain at a minimum except when provoked by excessive bodily fatigue. His weight continues at about 170, instead of 205 pounds.

CONCLUSION.

Proof is presented that an incompetent ileocecal valve may become competent under medical treatment. This is, at least, a step in advance of pure pessimism, for a patient with this condition may be assured that non-surgical restoration to normal is certainly possible, that it is a definite object for which to strive, and that it is one worth attaining, since it will yield results in the form of increased health.

Book Reviews.

General Principles of Therapeutics. By Francis H. McCrudden, S.B., M.D., Boston: Gregory. 1917.

This volume is an elementary text-book dealing with the general principles of therapeutics. It is intended as a supplement to practical clinical work and aims to develop scientific habits of thought rather than to offer a mere accumulation of details. The principles laid down are determined by usefulness and elasticity. Therapeutics is based on a sound biological basis; its purpose is to adapt the patient to his environment and the environment to the patient.

In this book, various methods of treatment are considered: the preventive, the direct, and the indirect treatment. Therapeutics is discussed as a branch of applied physiology; the functions of the organs are briefly reviewed; then are considered the nature of the disturbances of function brought about by disease, methods of influencing those disturbances, and chemical forms of disease. A comparison, from the standpoint of therapeutic usefulness, shows that the physiological, rather than the anatomical, is the correct point of view.

The Dream Problem. By Dr. A. E. Maeder. Translated by Dr. Frank M. Hallock and Dr. Smith Ely Jelliffe. Nervous and Mental Disease Monograph Series, No. 22. 8vo. pp. 43. New York: Nervous and Mental Disease Publishing Company. 1916.

This brochure is a short study consisting of the analysis of a few dreams, and advancing the views chiefly of the Zurich school and the followers of Jung. Like his colleague, Dr. Maeder pays much more attention to the manifest content of the dream than do the followers of Freud, and, while accepting much of the sexual symbolism of these writers, sees in the dream not so much a wish-fulfiling fantasy, as a mental conflict between the interest impulse and the intellectual motive. The article is clearly written, and will well repay careful study, while the views of this writer, which are those of the followers of Jung, seem much more likely to be of permanent value, both in psychology and in medicine, than those of earlier writers.

The Significance of Psychoanalysis for the Mental Sciences. By Dr. Otto Rank and Dr. Hanns Sachs. Authorized translation by Dr. Charles R. Payne. Nervous and Mental Disease Monograph Series, No. 23. 8vo. pp. 127. New York: Nervous and Mental Disease Publishing Company. 1916.

Freud's theories of the permanent retention in the unconscious of complexes to which are attached certain feeling tones are shared by many students of psychology, and we may say are fairly generally accepted. His theory, however, of how this happens, and especially of a "censor" which has much to do with the repression of these complexes, is much more doubtful. Granted this "censor" however, and there is much to be said in favor of the explanation of the origin of psychoneuroses from these factors. In this book the authors accept these theories and follow out their ideas of the methods of action of the unconscious, and of repression of ideas and wishes, and their reaction is shown in various fields of thought.

They take up first the general explanation of these theories of the unconscious, and then the effects of these unconscious complexes as shown in myths and legends, in religion, in ethnology, in esthetics and the psychology of artists, in relation to philosophy, ethics and law, and finally in pedagogy and characterology. While exception can and should be taken to forcing one theory of action of the unconscious too far in manifold fields of thought, the explanations given of many common phenomena of life and thought and prejudices give new aspects and significance to many things when studied from the point of view of these writers, and the book more than repays careful study.

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THE EPIDEMIC OF INFLUENZA.

THE regrettable appearance of so-called "Spanish influenza" in Boston and its vicinity was noted in the last issue of the *Journal*. Unfortunately, the number of cases has increased, and the epidemic has now reached important proportions. Although every possible precaution has been taken, the disease has been spreading, especially in Navy cantonments. Furthermore, it has reached the civilian population and has invaded the schools, although not yet to any serious extent.

The most serious aspect of the situation is being confronted by the Navy officials. Up to the present writing, there have been 34 deaths and 1705 cases among naval men. The wards of the various local hospitals have become filled, and the authorities have found it necessary to utilize Galloup's Island, in Boston Harbor, as a station for sailors quarantined because of this disease.

Dr. William C. Woodward, Boston Health Commissioner, has issued a statement saying that the first thing now, as always, is to take every precaution to keep in good physical condition. At the first signs of approach of a common cold, or the grippe, isolation should be resorted to and remedies that have been found effective in previous cases applied. Avoidance of crowded cars, elevators, or buildings, and of common drinking cups and towels, is recommended.

There have been many cases and several deaths among nurses at both the Boston City and Massachusetts General Hospitals.

Since August 28, there have been sixty cases of pneumonia following grippe among sailors at Commonwealth Pier. There are comparatively few cases of the disease at the Harvard Radio School, which accommodates approximately 5000 men. Captain John M. Edgar, medical director for this Naval District, has announced that there have been 1109 cases reported in the district since August 28.

Thirty sailors from the merchant marine at East Boston have been taken to the William A. Brooks Camp, at Corey Hill, Brookline. This makes a total of more than one hundred cases of influenza in the hospitals. Several of the patients have developed pneumonia. Twelve men from the Sanitary Corps of the Tenth Regiment, State Guard, were called out and are assisting the nurses and physicians. The Red Cross has given valuable assistance.

A report from Newport, R. I., states that on account of the epidemic of Spanish influenza the naval torpedo station has been placed under quarantine. A number of men have been removed to the naval hospital, including Commander Hamilton Glover, U.S.N., executive officer of the station. The quarantine order reads as follows:

"Men will be seated not less than three feet apart. Where folding benches are used, only every other seat will be occupied.

"Coughing in all enclosed places will not be tolerated. At Barracks B drill hall, Y.M.C.A. hut, K. of C. hut, and any other places where lectures and entertainments may be held, the provost marshal will detail sentries to curb the 'coughing habit,' which has become very noticeable at all gatherings.

"It must be remembered that coughing is the means whereby contagious diseases are most effectually spread and men are enjoined to bear this fact in mind whenever they are in enclosed places in company with other men.

Coöperation on the part of every individual at this training station in the simple rule of 'Stop That Coughing' will prevent the inception and spread of disease.

"When you want to cough, go out into the open air and do it, and then see the doctor."

Navy officials have expressed the hope that relatives of sailors will not become unduly alarmed, since the Navy has adequate medical forces and hospital room to give the best attention to every case.

Officers of the First Naval District have decided to take over the muster field at Framingham as a temporary camp, technically to be an annex to the receiving ship, where 2700 naval reservists from the Commonwealth Pier may be quarantined until all danger from the malady has been removed. It will not be a camp for the reception of sick soldiers.

The naval officers, medical department, state quartermaster's department and the engineers have agreed that the site is most desirable for the purpose, and have stated that all that is now needed to complete the enterprise is the formal agreement of the Navy Department officers at Washington. Equipment is being sent to Framingham, and it is expected that the grounds will be ready for occupancy in about a week.

The medical officers of the First Naval District have been considering a number of possible sites for such a camp—a place not too far from the pier, receiving ship, Hingham, Bumpkin Island, Technology and the radio schools might be afforded fresh air, seclusion and training until the cold weather comes, by which time the naval physicians expect to have ended the influenza cases. The fact that everything necessary to sanitation is already installed at Framingham influenced the officers to that choice.

Plans already have been made for the installing and boarding up of the tents, the provision of stoves and other equipment to make comfortable the 2700 or 3000 men who will camp there until perhaps the middle of November.

There have been 118 patients at the William A. Brooks camp on Corey Hill, Brookline. This camp is now well organized. The rapidity with which it was put together was due to the fact that Governor McCall and the Council had the foresight to make arrangements for portable houses, beds and bedding, and such other material as would be necessary for the establishment of an emergency hospital. The hospital equipment which this camp is now using was originally purchased for an emergency hospital in Commonwealth Armory, which the Governor and Council thought might be needed, but which the Government failed to accept.

Captain John M. Edgar, medical officer in charge of the First Naval District, is satisfied that the doctors at the various local stations have checked the malady. He says that by segregation both he and the other doctors hope to stamp out the illness entirely in a few weeks.

Of the 13 naval stations nearby, the training camp at Hingham is the only one so far not to be reached by the disease. No explanation for this is given. The receiving ship at Commonwealth pier still holds the lead, with 569 cases. The largest increase has been at the radio school in Cambridge, where there has been a total of 428 cases.

The following list has been published by Captain Edgar:

Stations	Sept. 13		Total to Date	
	Influenza	Deaths	Influenza	Deaths
Naval Training Camp, Hingham	..	..	..	..
Naval Training Camp, Bumpkin Island	14	..	235	..
Rifle Range, Wakefield	13	..	105	..
Radio School	102	..	530	..
Boston Section	3	..	25	..
Cadet School	2	..	9	..
Receiving Ship at Boston	30	..	599	..
Naval Detention Training Camp, Deer Island	5	..	21	..
Little Building	8	..	21	..
Boston Navy Yard	1	..	16	..
Ammunition Depot, Hingham, Mass.	..	..	13	..
Fore River	6	..	28	..
Aviation Detachment, Cambridge	28	..	104	..
Chelsea Hospital	..	2	..	34
Totals	212	2	1706	34

The prevalence of Spanish influenza, so called, has not reached alarming proportions among the civilian population, but the situation is serious enough to demand every possible precaution. Several deaths have occurred, chiefly from pneumonia resulting from influenza. It is to be regretted that schools have been invaded by the disease, for it will probably spread, although everything is being done to check its progress. A number of children have been sent to their homes and ordered to

remain in bed for three or four days until a proper diagnosis has been made. Most of these cases are from the Mather School in the Meeting House Hill section of Dorchester.

There are six incipient cases of influenza at Charles Street Jail.

All precautions are being taken to prevent the spread of the disease among the prisoners. In order to keep the prisoners healthy, Sheriff Keliher has introduced recreation periods outdoors forenoon and afternoon. For an hour at a time the prisoners play handball, baseball, quoits, and other games in the yard.

There have been 52 cases of influenza in Holbrook and one hundred cases in Quincy, Mass.

Surgeon-General Blue of the Public Health Service has made a telegraphic survey to determine the extent of so-called Spanish influenza in the United States. He has found that there was an outbreak at Fort Morgan, near Mobile, Alabama, in August, and at about the same time a tramp steamer arrived at Newport News with almost the entire crew prostrated. Cases have also been reported from Philadelphia and New York. The Boston outbreak was reported September 11; since then the epidemic has appeared at New London. New Orleans has not wholly escaped.

In New York, a rigid quarantine has been established. Dr. Copeland, City Health Commissioner, believes that the symptoms include jointaches, backaches, gastritis and nasal discharges, and that the germ is carried in the nasal and mouth secretions. He has issued the following advice:

"Avoid crowded places and poorly ventilated places.

"Keep as far as possible from sneezers and persons with coughs.

"Avoid use of public and all unsanitary drinking cups.

"Persons with colds should sneeze or cough only into handkerchiefs, to protect their neighbors.

"Persons who actually contract Spanish influenza should immediately go to bed and remain quiet. Disease will normally run its course in three days. So far, there is no known cure for it."

Reports from Europe during the past few months cite extensive epidemic prevalence of a disease resembling influenza. Many thousands of cases are said to have occurred in Spain attacking nearly one-third of the population, and in Germany and England. On this side of the water, Cuba was visited during June last by a similar epidemic, which affected one-quarter of the population of Havana, but not a single death resulted. In Spain, however, about 700 deaths are said to have been caused by the outbreak.

In a recent issue of the *Lancet*, the following item, by Professor R. Staehelin of Basle, Switzerland, has been published. Professor Staehelin points out that little is really known of the actual death-rate from the present epidemic of influenza in Switzerland in spite of the alarmist returns in the press, inasmuch as the total number of cases is merely a matter of conjecture. Professor Staehelin is reported to have said:

"We saw no effect from salvarsan, and only fleeting fall of temperature from optochin. Electrargol occasionally gave rise to rigor with resulting fall of temperature and definite improvement of general condition, but for the most part of transient nature. Subjectively, anti-pyretics worked best (of these quinine showed no specially favorable effect), and in particular salicyl preparations, sweating being succeded by a fall in the fever and increased comfort for several hours. In pneumonia camphor in large doses was the only effective remedy, with, of course, venesection where indicated. We should welcome any suggestions from colleagues of a more effective remedy."

Surgeon-General Blue of the Public Health Service has recently published the following information, which is helpful both in determining and in treating cases of so-called Spanish influenza:

"People are taken ill on the streets, or while at work. First there is a chill, then fever with temperature from 101 to 103, headache, backache, reddening and running of the eyes, pains and aches all over the body and general prostration. Persons so attacked should go to their homes at once, get into bed without delay, and immediately call a physician.

"Treatment under direction of the physician is simple, but important, consisting principally of rest in bed, fresh air, abundant food, with Dover's powder for the relief of pain. Every case with fever should be regarded as serious and kept in bed at least until temperature becomes normal. Convalescence requires careful management to avoid serious complications, such as bronchial pneumonia, which not infrequently may have fatal termination. During the present outbreak in foreign countries the salts of quinine and aspirin have been most generally used during the acute attack, the aspirin apparently with much success in the relief of symptoms."

Dr. Blue is issuing a special bulletin on the disease for all medical men who send for it. In

order to reach physicians of the country without delay, however, Dr. Blue has provided for transmission through the Associated Press the following summary of methods for control of the disease:

"Infectious Agent—The bacillus influenzae of Pfeiffer.

"Sources of Infection—The secretions from the nose, throat and respiratory passages of cases or of carriers.

"Incubation Period—One to four days—generally two.

"Mode of Transmission—By direct contact or indirect contact through the use of handkerchiefs, common use of wells, cups, mess gear or other objects contaminated with fresh secretions. Droplet infection plays an important part.

"Period of Communicability—As long as the person harbors the causative organism in the respiratory tract.

"Methods of Control—(*a*) The infected individual and his environment.

"Recognition of the Disease—By clinical manifestations and bacteriological findings.

"Isolation—Bed isolation of infected individuals during the course of the disease. Screens between beds are to be recommended.

"Immunization—Vaccines are used with only partial success.

"Quarantine—None; impracticable.

"Concurrent Disinfection—The discharges from the mouth, throat, nose and other respiratory passages.

"Terminal Disinfection—Thorough cleansing, airing and sunning. The causative organism is short lived outside of the host.

"(b) General Measures—The attendant of the case should wear a gauze mask. During epidemics persons should avoid crowded assemblages, street cars and the like. Education as regards the danger of promiscuous coughing and spitting. Patients, because of the tendency to the development of broncho-pneumonia, should be treated in well-ventilated, warm rooms.

"The present outbreak of influenza may be controlled to more or less extent only by intelligent action on the part of the public."

The latest reports on September 17 present a situation on the whole not encouraging. Greater Boston hospital authorities and physicians generally are of the opinion that nothing can be gained by denying that the grippe epidemic, which has already caused 47 deaths out of 2273 cases in the 1st Naval District alone, is making great headway, and that the public should be warned of the need of more intelligent coöperation to prevent its spread before conditions become alarming.

With nearly 200 cases to handle, all City Hospital physicians, nurses, attendants, and employees have been ordered to wear masks to minimize the danger of infection. Since early last week a number of physicians are reported to have suffered more or less from the contagion.

Since September 15, there have been 10 deaths at the Chelsea Naval Hospital, and at the aviation school in Cambridge 81 cases were reported on September 16, thus bringing the total up to 221. Commonwealth Pier reported 28 cases on September 16, as compared with 23 on September 15 and 27 on September 14, and 11 cases developed at the Highland Training School, which was free from it up to September 16.

At the Radio School in Cambridge conditions seem to have improved, and it is expected that the school will be reopened within a few days. Fewer cases have been reported recently and it is expected that the number of cases will become gradually lower.

Hospital authorities say that the rapid recoveries are due to unusual sanitary precautions and preventive measures. No deaths have occurred at the Winthrop Hall Hospital. Owing to the need for more spacious quarters, the Radio School authorities have taken over Lawrence Hall, adjoining Winthrop Hall, in order more adequately to care for the patients.

Rear Admiral Spencer S. Wood's tabulated report says the cases in the 1st Naval District thus far are distributed as follows: Hingham training camp, 11; Bumkin Island training camp, 258; Wakefield rifle range, 171; Radio School, 692; Boston section, 58; Cadet School, 17; receiving ship in Boston, 677; Deer Island training camp, 40; Little Building, 36; Boston Navy Yard, 36; Hingham ammunition depot, 16; Fore River, 39; Cambridge aviation detachment, 221; Naval Prison, Portsmouth, 59.

Other new cases reported on September 16 include 10 at both the Navy Yard and the headquarters in the Little Building, 11 at Fore River, 36 at Wakefield rifle range, 59 at the Naval Prison in Portsmouth, 33 at Commonwealth Armory, and 2 at Army headquarters on Chauncey street. 22 deaths of pneumonia and 10 of influenza were reported among the civilians of Boston between September 14 and 16, but Health Commissioner W. C. Woodward believes that the situation has not become serious enough to close the public schools.

Three deaths were reported in Quincy and 1 each in Marlboro, Reading and Concord. In Newport, R. I., there were fewer cases of so-called Spanish influenza at the Naval Station on September 17 than on any day for a week past; this condition is attributed to the strict quarantine and to the effective manner in which the Naval surgeons are caring for the trouble. Quarantine of the enlisted men at the Naval Torpedo Station has been lifted and the 2d Naval Reserve Training Barracks, camped at Oakland Farm, in Portsmouth, reports excellent health.

Dr. C. Clarke Towle, city physician of Somerville, stated on September 16 that the grippe had reached the proportions of an epidemic there. The malady has spread very rapidly, but there is nothing to show how many cases there are in the city, as they are not reported to the Board of Health.

Two deaths from influenza have been reported from Needham, and the public schools have been closed indefinitely. In Brockton, so-called Spanish influenza and resultant pneumonia have caused the deaths of four persons in the last two days. In Lynn, although no exact figures could be obtained, it was estimated that there were between 600 and 700 cases in the city. An unusually large number of pneumonia cases are being treated at the Lynn Hospital. No deaths have as yet been reported.

Three more deaths were reported on September 17 at William A. Brooks Hospital grounds on Corey Hill in Brookline, where men of the Merchant Marine who are stricken with Spanish influenza are being sent by the United States Shipping Board for treatment.

There have been 7 deaths since the camp was established about a week ago, and 31 new cases were admitted to the hospital camp on September 16, bringing the total number of cases under treatment up to 148. 30 of the 148 patients have pneumonia.

More than 1000 cases are being treated by Gloucester physicians. The epidemic started among the mail clerks in the postoffice. Two of these men have died and several others are in serious condition. In all seven deaths have been recorded.

All schools in Gloucester have been ordered closed by the Board of Health as a precautionary measure to prevent further spread of the influenza. Of the 1000 pupils in the Gloucester High School more than half were absent on September 16.

Schools have been closed, also, in Sharon, because of the proportions of the epidemic there. In Milford, so serious have conditions become that the superintendent of schools closed the Claflin Grade School, with its six teachers and about 200 pupils. There are no serious cases, but temporary cessation of school contact was deemed wise. There are numerous cases in the other schools.

The Health Commissioner of New York reported on September 17 that 13 cases of so-called Spanish influenza had been found on a United States Naval training ship at the Crane shipyards, Erie Basin. The men were taken to Kingston Avenue Hospital, Brooklyn. 184 cases have been reported in New York. Camp Upton, New York, has been closed indefinitely because of Spanish influenza, so-called, and 170 cases in the base hospital of the camp have been reported under treatment.

PROGRESS OF CAMPAIGN AGAINST VENEREAL DISEASES IN MASSACHUSETTS.

THE following figures will give an idea of the progress to date of the campaign against venereal diseases in Massachusetts. While these figures are encouraging and bespeak a fine spirit of coöperation on the part of the medical profession as a whole, there is, nevertheless, much yet to be accomplished before figures can be presented which will actually indicate the prevalence of these diseases in the communities of our State.

A peculiar responsibility was thrown upon the shoulders of the physician when the decision was reached that syphilis and gonorrhea should be made reportable by number only, unless lapsing treatment. It is the physician alone who holds the secret of the comings and goings of these carriers of disease, consequently it is to him that we must look for the close follow-up work which alone can make this system a success—for success it is proving to be; and the physician can make it a bigger success and a greater boon to humanity by following up every case which comes to his attention until he is satisfied that it is no longer a source of danger to the community.

Physicians are urged to keep in close touch

with the State Department of Health, notifying them immediately when in their judgment a patient is not continuing treatment in competent hands. There is no need of waiting for the expiration of the six weeks of the original regulations: an additional regulation permits immediate report by name when advisable.

State approved and subsidized clinics are being established in the following cities. Those already in operation are marked with a star (*).

*Brockton City Hospital	Holyoke
*Corporation Hospital, Lowell	*Pittsfield
*Lawrence	*Fall River
Fitchburg	Attleboro
*Worcester City Hospital	New Bedford
Springfield	*Lynn Hospital

Boston: *Massachusetts General Hospital
*The Boston Dispensary
*Massachusetts Homeopathic Hospital
*Boston City Hospital

All these clinics are being supplied with free arsphenamine, manufactured by this Department, and in all treatment may be had free (when conditions warrant it) for syphilis and gonorrhea in both sexes. Evening pay clinics will be available in many cities. Hence, we are urging the support of these clinics as a measure of health conservation and as a patriotic service to Army and Navy.

The value attached to this work by the War Department may be estimated by the fact that the Chief of the Subdivision of Venereal Diseases is a Major of the Medical Corps, detailed to us by the War Department for the purpose of organizing this drive, not alone in this State, but throughout New England.

It may be of interest to note the standards accepted by the United States Public Health Service for the discharge of venereal patients from the Government clinics now established in extra-cantonment zones throughout the country. The basis for discharge of cases of syphilis is as follows:

"No case should be considered as cured for at least one year after the termination of treatment and unless the following conditions have been satisfied: (*a*) No treatment for one year, during which time there have been no symptoms, no positive and several negative Wassermann reactions. (*b*) A negative provocation Wassermann reaction. (*c*) A negative spinal fluid examination. (*d*) A complete negative physical examination, having special reference to the nervous and circulatory systems. (*e*) A luetin test may also be included."

Before discharging male gonorrheics the following requirements must be met: "1. Freedom from discharge. 2. Clear urine; no shreds. 3. The pus expressed from the urethra by prostatic massage must be negative for gonococci on four successive examinations at intervals of one week. 4. After dilation of the urethra by passage of a full-sized sound, the resulting inflammatory discharge must be negative for gonococci."

In the gonorrheal infections of women, absence of urethral and vaginal discharge is considered essential before release, in addition to "Two successive negative examinations for gonococci of secretions of the urethra, vagina and cervix, with an interval of 48 hours, and repeated on four successive weeks."

It is recognized by all, that even this comparatively thorough examination does not determine freedom from infectiousness, but guarantees a reasonable degree of safety for the public health. The following figures indicate the degree to which the physicians of this State are meeting the new requirements. Those in a position to judge estimate that about one case in five is being reported. Boston, with approximately 20% of the total population of the State, is reporting 40% of the cases reported. This fact is to be taken with due consideration of the large field covered by the leading Boston clinics.

MASSACHUSETTS VENEREAL DISEASE REPORTS.

Total reported by number to September 1, 1918	Syphilis		2,116
	Gonorrhea		5,044
			7,160
Rep't'd by name (because lapsing tr'tm'nt)			736
Of these there were reclaimed	Syphilis	141	
	Gonorrhea	262	
			403
Of these there were lost...	Syphilis	18*	
		6†	
	Gonorrhea	123*	
		15†	
			162

BOSTON REPORTS.

Total venereal diseases reported by number to Sept. 1, 1918	Syphilis		1,016
	Gonorrhea		2,166
Reported by name	Syphilis	43	
	Gonorrhea	175	
			218
Of these there were reclaimed	Syphilis	6	
	Gonorrhea	20	
			26
Of these there were lost ...	Syphilis	15	
	Gonorrhea	109	
			124

By direction of the Commissioner of Health,
JOHN H. HITCHCOCK, M.D.,
Director, Division of Communicable Diseases,
Massachusetts State Department of Health.

*Male; †female.

MEDICAL NOTES.

MORTALITY RATE IN LONDON.—The mortality rate for the city of London during July, 1918, was 14.8 per thousand inhabitants living. Among the several districts and boroughs, the highest rate was 21.4, in Southwark, and the lowest, 9.9, in Wandsworth.

WAR NOTES.

APPOINTMENTS IN THE MEDICAL RESERVE CORPS.—The following appointments in the Medical Reserve Corps have been announced:

Captains.—R. S. Benner, Springfield; C. C. Burpee, Malden; E. W. Burt, Westport; F. F. Hanley, Whitman; W. E. Hunt, Malden; J. V. W. Boyd, Springfield; J. W. Cahill, Worcester; L. J. Maskell, Newton; A. L. Newhall, West Lynn; R. T. Stearns, Mattapan; Ross Halford Miner, Windsor, Vt.; A. G. Hurd, Millbury.

First Lieutenants. Francis H. Lally, Milford, Mass; Chauncey P. Munsell, South Royalton, Vt.; Harry F. Cleverly, Scituate; Howard L. Jackson, West Springfield; Clarence B. Kenney, Winchendon; Walter F. Mahoney, Westboro; Romeo J. Morin, Camp Devens; Olin C. Moulton, South Windham; Darley G. Plumb, Melrose; George L. Steele, West Springfield; N. K. Forhan, North Billerica; W. S. Lyon, Fall River; R. A. Taylor, Waltham; Park Rowe Hoyt, Laconia, N. H.; P. A. Hoyt, Ludlow, Vt.

ARMY AND NAVY MEDICAL CORPS.—Applicants for the Medical Corps of the Army should make application either to Capt. John T. Bottomley, 165 Beacon Street, Boston, or to Capt. Philip Kilroy, 61 Chestnut Street, Springfield. The examiners have application blanks, and will communicate all details as to membership in the Corps. Applicants for the Medical Corps of the Navy should apply to Capt. John M. Edgar, Naval Aid Department, Little Building, 80 Boylston Street, Boston. Captain Edgar has the application blanks, and will give full information as to the requirements and the physical examination.

GENERAL GORGAS IS SATISFIED WITH PARIS HOSPITALS.—Major-General William C. Gorgas, Surgeon-General of the United States Army, after an inspection tour of the Paris military hospitals, where Americans are undergoing treatment, expressed satisfaction with the manner in which the wounded are being cared for. He is reported to have said:

"The cheerfulness and commodious arrangements and the genuine spirit of hopefulness of the wounded in the hospitals have been the most impressive thing witnessed by me since my arrival in France.

"It is inspiring to see the determination displayed by our men; they are filled with real spirit and there is an atmosphere of happiness among them, although they are suffering from wounds. They are well taken care of and the work of the medical department which I have seen so far has been above reproach."

$12,000,000 MORE APPROPRIATED FOR RED CROSS WORK IN ITALY.—The following statement on behalf of the war council of the American Red Cross has been published:

"In carrying out its work in Italy, the American Red Cross had appropriated to July 19, 1918, the sum of $7,939,653.50. The greatly enlarged field of opportunity and obligation in Italy has called for an appropriation for the six months ending December 31, 1918, amounting to $12,657,837.50.

"Thus, by the end of the year 1918 the American Red Cross will have expended since the war began and up to the end of 1918, at least $20,000,000 in work of relief in Italy.

"During the first three months 267,000 packages bearing the stamp of the American Red Cross and containing socks, chocolate, cigarettes and a variety of useful articles were distributed to the men in the trenches. Rolling canteens were sent to the front, each canteen being capable of feeding 800 to 1000 men a day. Ten were soon in commission. Canteens and rest rooms were established at various stations among the railroads and highways, where the men could find rest and food if needed. During these first three months more than 60,000 soldiers were cared for.

"Today Italy is fully convinced that the American people are a nation of deeds as well as words. There is scarcely a village or commune in the whole country which has not been given unmistakable evidence of the generosity, kindness, and ability of America in the work of saving Europe from the grasp of Teutonic autocracy."

WOUNDED SOLDIERS REACH BOSTON.—The second contingent of wounded American soldiers has recently arrived in Boston. It was officially stated that the total sick and wounded arriving was 195. This number included 13 infantrymen of Boston and New England regiments now on the French front.

Of the 195 wounded men arriving from overseas, 52 are stretcher cases. These men must be kept in bed, for the present at least. They were removed to the Boston City Hospital. As soon as they get back some of their strength

they will be transferred to various army hospitals.

Thirteen were sent to the Boston Psychopathic Hospital for rest. These men are suffering from shell shock. The more severe of these cases, and those which require a long period of recovery, will be sent to the army hospital at Buffalo as soon as they are able to make the journey. One of the men is in an advanced stage of tuberculosis. He was sent to the local State Hospital for treatment. The remainder of the wounded soldiers were transferred to the army hospitals of the Boston Coast Defence forces.

The Boston Metropolitan Chapter of the Red Cross provided an abundance of automobiles and nurses to convey the men to the various hospitals to which they had been assigned. Autos and ambulances were also provided by the State Guard and by Boston hospitals. Fifteen members of the Marine Corps were sent to the Naval Hospital at Chelsea to be taken care of by the naval authorities.

All the patients were examined by Major Austin, assistant medical officer of the Northeastern Department, and the plans for landing the men were directed by Surgeon Breck. Two army nurses and 18 Sisters of the Holy Ghost came back with the men.

Supervising Nurses to Sail for Italy.—Three supervising nurses from the Instructive Dnstrict Nursing Association have sailed for Europe for work in the service of the Red Cross Italian Tuberculosis Commission. They are Miss Ethel Nichols, extra field supervisor, graduate of Johns Hopkins Hospital, and Miss Mary McCarthy and Miss Mary Davis, assistant supervisors, graduates, respectively, of the Boston City Hospital and of the New York Post-Graduate.

Miss McCarthy, who is a niece of Miss Mary Gardner, chief of the commission's nursing unit, has already done two years' nursing at the front, having gone over with one of the earliest Red Cross units.

BOSTON AND MASSACHUSETTS.

Week's Death Rate in Boston.—During the week ending Sept. 14, the number of deaths reported was 219, against 206 last year, with a rate of 14.56, against 13.91 last year. There were 34 deaths under one year of age, against 50 last year.

The number of cases of principal reportable diseases were: diphtheria, 40; scarlet fever, 5; measles, 8; whooping cough, 35; typhoid fever, 7; tuberculosis, 64.

Included in the above were the following cases of non-residents: diphtheria, 5; typhoid fever, 3; tuberculosis, 18.

Total deaths from these diseases were: diphtheria, 4; whooping cough, 3; typhoid fever, 2; tuberculosis, 17.

Included in the above were the following non-residents: typhoid fever, 1; tuberculosis, 4.

Influenza deaths, 19.

Boston University School of Medicine.—Boston University announces that its medical department has been thoroughly reorganized and henceforth will be non-sectarian in scope and character.

Eminent physicians of the "regular" school will conduct courses in pharmacology and therapeutics, and clinical teaching will be given in the Boston City Hospital and the Robert B. Brigham Hospital. Homeopathic materia medica will be taught as heretofore, with clinical teaching in the Massachusetts Homeopathic Hospital and allied institutions.

The spirit of the times is to do away with sectarianism in things scientific. In accordwith this spirit, this school in 1918 announces that its curriculum has been made as broad and inclusive as is consistent with the medical science of the day.

* * *

Public Bequests.—The will of the late Abbie T. Vose of Boston contains the following public bequests: To the Massachusetts General Hospital, $5000 to establish a free bed in memory of the husband of the testatrix, Andrew J. Vose; $2000 each to the trustees of the Consumptives' Home, Blue Hill Avenue, Dorchester, Peter Bent Brigham Hospital, Mt. Pleasant Home, Roxbury; $1000 each to the Boston Floating Hospital (in memory of Sadie Lizzie Vose, daughter of Mrs. Vose), Massachusetts Society for the Prevention of Cruelty to Children, New England Home for Little Wanderers, the Children's Hospital, Longwood Avenue, Brookline, Perkins Institute for the Blind, St. Mary's Infant Asylum, Cushing Avenue, Boston Lying-in Hospital, Morgan Memorial, Industrial School for Crippled and Deformed Children, and the Forsyth Dental Infirmary for Children; $500 each to the Salvation Army and the New England Deaconess Association, and $400 to the Home for Aged Women.

SHARON SANATORIUM, MASSACHUSETTS.—The twenty-seventh report of the Sharon Sanatorium, issued in July, 1918, combines the reports of 1917 and 1918 into a brief statement of the purpose and achievements of the institution. The object of this sanatorium is to give treatment to women and children in the incipient stages of pulmonary disease who, for pecuniary or other reasons, are unable to seek distant health resorts. No advanced cases have been admitted. In spite of difficulties which have arisen because of the war, the Women's Department has been carried on with its usual high standard of efficiency. The Children's Pavilion, which is a combined sanatorium and school for children in the early stages of pulmonary and glandular tuberculosis, has been completed and is ready to receive boys and girls between the ages of seven and fourteen years. Sharon Sanatorium has been called upon by the Government to help the wives of men in the Army and Navy.

Miscellany.

RÉSUMÉ OF COMMUNICABLE DISEASES IN MASSACHUSETTS FOR AUGUST, 1918.

General Prevalence. During the month of August, 4315 cases of communicable diseases were reported, as compared with 6253 for July and 3160 for August, 1917. The case rates per 100,000 population were, respectively, 110 for August, 1918, 159.5 for July, and 82.0 for August, 1917. The increase of cases for August, 1918, over the cases for the same month last year is accounted for by the reporting of venereal diseases, which were not reportable last year. A marked decrease in the number of cases for August was evidenced in all forms except typhoid fever, which showed an increase over July of 76 cases; lobar pneumonia, with an increase of 30 cases; gonorrhea, with an increase of 78; and syphilis, increased by 75 cases.

Diphtheria. Diphtheria was widely scattered throughout the State and was reported in 337 cases, a decrease of 116 cases over the preceding month.

Measles. This condition showed a marked decrease in number of cases reported, the total being 500, as compared with 1962 cases in July, a decrease of 1462 cases.

Lobar Pneumonia. The total number of cases for the month was 170. All but 60 of these cases were reported from Camp Devens.

Scarlet Fever. This disease was reported in 123 cases, a decrease from July of 77 cases. Its incidence was widely distributed throughout the State with no outbreaks.

Typhoid Fever. Typhoid fever showed an increase of 76 cases for August over the preceding month, the total number reported being 188. In August, 1917, 246 cases were reported. The incidence was well distributed, with but few cities or towns exceeding their endemic index.

Malaria. This disease was reported from Uxbridge in 21 cases. This does not mean, however, that there has been an unusual amount there, but that in this instance the reporting is being more conscientiously followed out. It would seem from the few cases of malaria reported each year that physicians are not fully aware of their obligation to report their cases. It is just as necessary to report malaria as to report diphtheria or typhoid, and it is particularly essential at this time when the movement of the men in National Service is bringing so many carriers from malarial-infected regions to our community. Laboratory examination for the plasmodium of malaria is considered absolutely essential for the proper diagnosis and treatment from a public health viewpoint, and the State Bacteriological Laboratory is desirous of receiving specimens for examination.

Whooping Cough. Whooping cough shows a slight decrease in number of cases for the month, but the incidence is, however, still in excess of what is to be desired. August cases numbered 688, while in July 781 cases were reported.

Outbreaks. A mild outbreak of typhoid fever, with 18 cases, occurred, which proved upon investigation to have its origin in the water used in washing milk utensils. This water was obtained from a spring which was draining a privy situated some 50 yards away. In the house there had been a case of typhoid fever, and the excreta was emptied into this privy.

Another small outbreak of seven cases of typhoid was found on one man's milk route. It was determined that the woman who washed

the milk bottles had a positive laboratory test and seems to be an intermittent carrier.

An outbreak of influenza, which appeared first among the Naval forces located at Commonwealth Pier, has assumed epidemic proportions. It has also spread to the civilian communities, and as it seems to be particularly infectious unless due care is taken to prevent exposure, we are in danger of a widespread epidemic. Broncho-pneumonia is seen as a sequela and is proving fatal in some instances. This Department recommends that grippe should not be treated too lightly, that a good physician be consulted, and that return to work be delayed until full recovery is assured. The incubation period seems to be from a few hours to two or three days.

DISTRIBUTION.

ALL COMMUNICABLE DISEASES.

Total cases: July, 1918, 6,253; August, 1918, 4,315; August, 1917, 3,160.
Case rate per 100,000 population: July, 1918, 159.5; August, 1918, 110.0; August, 1917, 82.0

CERTAIN PREVALENT DISEASES.

Diphtheria
Total cases, July, 1918, 453; August, 1918, 337; August, 1917, 590.
Case rate per 100,000: July, 1918, 11.6; August, 1918, 8.6; August, 1917, 15.3.

EXCEEDING THEIR ENDEMIC INDEXES.*

North Attleboro	(1)	5
Chelsea	(5)	10
Wakefield	(1)	8
Somerville	(7)	12

Lobar Pneumonia
Total cases: July, 1918, 140; August, 1918, 170; August, 1917, 57.
Case rate per 100,000: July, 1918, 3.6; August, 1918, 4.3; August, 1917, 1.5.

Measles
Total cases: July, 1918, 1962; August, 1918, 500; August, 1917, 380.
Case rate per 100,000: July, 1918, 50.0; August, 1918, 12.8; August, 1917, 9.9.

EXCEEDING THEIR ENDEMIC INDEXES.*

Haverhill	(2)	17
Lawrence	(4)	12
Lowell	(20)	40
Worcester	(9)	23
Leominster	(3)	15
Easthampton	(2)	26
Montague	(0)	19

Scarlet Fever
Total cases: July, 1918, 200; August, 1918, 123; August, 1917, 145.
Case rate per 100,000: July, 1918, 5.1; August, 1918, 3.1; August, 1917, 3.8.

EXCEEDING THEIR ENDEMIC INDEXES.*

Greenfield	(1)	5
Pittsfield	(4)	7

Typhoid Fever
Total cases: July, 1918, 112; August, 1918, 188; August, 1917, 246.
Case rate per 100,000: July, 1918, 2.9; August, 1918, 4.8; August, 1917, 6.4.

EXCEEDING THEIR ENDEMIC INDEXES.*

Gloucester	(2)	7
Marlborough	(1)	18
Athol	(0)	3
Southbridge	(0)	7
Fall River	(22)	36

Whooping Cough
Total cases: July, 1918, 781; August, 1918, 688; August, 1917, 228.
Case rate per 100,000: July, 1918, 19.9; August, 1918, 17.5; August, 1917, 8.8.

EXCEEDING THEIR ENDEMIC INDEXES.*

New Bedford	(5)	18
Taunton	(2)	13
Cambridge	(12)	114
Quincy	(1)	18
Lawrence	(6)	20
Somerville	(4)	28
Waltham	(3)	24
Framingham	(2)	15
Newton	(5)	13

Tuberculosis, pulmonary
Total cases: July, 1918, 620; August, 1918, 613; August, 1917, 693.
Case rate per 100,000: July, 1918, 15.8; August, 1918, 15.6; August, 1917, 18.0.

Tuberculosis, other forms
Total cases: July, 1918, 82; August, 1918, 60; August, 1917, 67.
Case rate per 100,000: July, 1918, 2.1; August, 1918, 1.5; August, 1917, 1.7.

* Endemic index signifies the average for five years of reported cases exclusive of epidemics. This index is applied to each city and town for each month for the more common communicable diseases. The numbers in parentheses after the names of each city and town indicate the endemic index for that city or town; the numbers without parentheses indicate the cases reported during the current month.

RARE DISEASES.

Anterior Poliomyelitis was reported from Winthrop, 1; Belmont, 1; Dedham, 2; Holyoke, 2; Springfield, 2; New Bedford, 5; Sterling, 1; Boston, 1; Hopedale, 2; Northampton, 1, Whately, 1; Cambridge, 1; total, 20.

Anthrax was reported from Peabody, 1 case.

Dog-bite Requiring Antirabic Treatment was reported from North Attleboro, 2.

Dysentery was reported from Melrose, 3; Newburyport, 1; Somerville, 1; Medfield, 2; Ipswich, 2; Boston, 2; Essex, 2; Dartmouth, 6; Pelham, 1; total, 20.

Epidemic Cerebrospinal Meningitis was reported from Boston, 3; Worcester, 1; Lynn, 3; Brockton, 1; Cambridge, 1; Springfield, 1; Newburyport, 1; Wakefield, 1; Spencer, 1; Bridgewater, 2; Winchester, 1; Camp Devens, 1; Westfield, 1; total, 18.

Malaria was reported from Natick, 2; Dedham, 1; Camp Devens, 3; Uxbridge, 21; Boston, 3; Fall River, 1; total, 31.

Pellagra was reported from Leominster, 1; Lynn, 1; total, 2.

Septic Sore Throat was reported from Haverhill, 1; Boston, 1; total, 2.

Tetanus was reported from Brockton, 1; Plymouth 1; total, 2.

Trachoma was reported from Boston 11; Worcester, 1; Medford, 1; New Bedford, 1; Lawrence, 1; Haverhill, 1; Chelsea, 1; total, 17.

Occupational Diseases.—Reported by the State Board of Labor and Industries:

OCCUPATIONAL DISEASES—REPORTED BY THE STATE BOARD OF HEALTH.

DISEASE	OCCUPATION	LOCATION	SEX	AGE	COLOR
Aniline	Mixer	Chicopee Falls	M	30	W
Aniline	Chem. W'rk'r	Lawrence	M	28	W
Anthrax	Yard Labor	Woburn	M	32	W
Chlorine Gas	Beater helper	Adams	M	48	W
Lead Poisoning	Painter	Cambridge	M	44	W

Correspondence.

THE CRANE SANATORIUM.

Boston, September 16, 1918.

Mr. Editor:—

My attention has recently been called to an article in the JOURNAL of August 8, 1918, page 217, entitled "The Crane Sanatorium," and in the JOURNAL of August 22, 1918, the editorial "Preparedness in Tuberculosis." Inasmuch as the last paragraph of the former article, through an evident inadvertance, contains a statement which might give the public a very wrong impression of facts, I wish, in behalf of the Directors of the Crane Sanatorium, to express their sincere regret for any such impression and to say that the article in question appeared in the JOURNAL without any previous knowledge on their part. It is probable that the statements in certain appeals made for the sanatorium in the newspapers may have been misconstrued as reflecting upon the admirable work now being done by the Trustees of the Massachusetts Hospitals for Consumptives towards housing the increasing numbers of tuberculous soldiers. Certainly if this impression has got abroad it was entirely against the wishes or intention of the Directors of the Crane Sanatorium and they deeply regret any such misinterpretation. Their only wish is to work in entire harmony with pre-existing institutions and to keep Massachusetts still in the vanguard in meeting this great problem.

It should be distinctly understood that the proposed sanatorium is intended chiefly for the type of patients who are of very moderate means but who desire and need the privacy of sanatoria *not under the state or municipal care.* Of this kind of institution in New England and elsewhere there is a lamentable lack, as every specialist who has practical and not merely theoretical knowledge of present conditions will testify. There will inevitably be an increasing number of men with tuberculosis discharged from the Army and Navy who, needing just such accommodations and shrinking from the publicity of large institutions, yet have not the means to enable them to seek the more expensive resorts intended for the wealthy. The new Crane Sanatorium now under construction is to be run *without profit* to meet, so far as it can, the needs of both the civilian and military classes of the type mentioned.

In endeavoring to impress the public of the pressing need in the immediate future, special stress has been laid in the public appeals upon the military and naval aspect of the question, although the same need exists to an equal degree for the civilian class. This is the stated opinion of almost every specialist of large experience in tuberculosis. If, in their endeavors to meet that need, the Directors of the Crane Sanatorium have unwittingly implied that the State is not doing its part to supply accommodations for tuberculous soldiers, they desire to express their sincere regret through your columns. Inasmuch as criticism has been brought to bear upon the Directors for alleged misstatements in public journals, it seems only just to call to the attention of the writer of the editorial alluded to that civilians and soldiers are already applying unsuccessfully for accommodations in the town of Rutland alone through the post-office and otherwise. Furthermore, it has recently developed that the Army will not care for every case of tuberculosis in the ranks, it being decided that it shall be largely a matter of choice for the individual between remaining in institutions prepared by the Army Medical Department or demanding discharge from the Army and then coming under the control of The Public Health Service. The latter department has urged the construction of the Crane Sanatorium as at least a secondary war measure, and has stated that it will make the "most ample use" of it when completed.

Yours very truly,
VINCENT Y. BOWDITCH.

SOCIETY NOTICE.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.—A quarterly meeting will be held at the Amesbury Club September 25, 1918, at noon. Papers by Lieut.-Col. F. B. Lund and Lieut.-Col. Channing Frothingham.

J. F. BURNHAM, M.D., *Secretary.*

RECENT DEATHS.

FREDERIC JOSEPH DENNING, M.D., died in Boston, September 17, 1918. He was a graduate of the Harvard Medical School in the class of 1908, and practised in South Boston.

DR. THOMAS F. LEEN of Boston died on September 16, at the Carney Hospital, as a result of pneumonia following overwork in attending soldiers and sailors suffering from influenza. Dr. Leen was born in Boston about 43 years ago. He graduated from Harvard in 1898 and from Harvard Medical School in 1901.

EDGAR MILLER HOLMES, M.D., was drowned by the overturning of a canoe off his summer home at Allerton, Mass., September 19, 1918.

Dr. Holmes was a native of Middletown, Conn., where he was born May 25, 1868. He was the son of Giles D. and Emma R. (Miller) Holmes. He was a graduate of the Harvard Medical School, class of 1895, and since then had practised in Boston. He specialized in the treatment of the ear, nose and throat and was visiting surgeon for the ear and throat at the Boston City Hospital, ear and throat surgeon at St. Elizabeth's Hospital, and aural surgeon to the Boston Dispensary where he remained for eighteen years. He also was consulting aurist at the Forsyth Dental Infirmary, and he was an instructor at the Harvard Post Graduate Medical School, a member of the American Medical Association and of the Massachusetts Medical Society, and of the Unitarian and Harvard Clubs.

Dr. Holmes was twice married. His first wife was Pauline G. Prentice of Grafton, to whom he was married in 1895. She died in 1907, and later Dr. Holmes married Lottie A. Crowell. Three children by the first wife were Marjorie, Pauline and Edgar Miller Holmes, Jr.